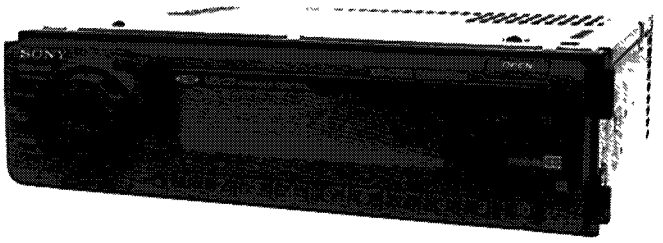
XR-C750

SERVICE MANUAL

US Model
E Model



SPECIFICATIONS

Model Name Using Similar Mechanism	XR-C500
Tape Transport Mechanism Type	MG-52B-135

AUDIO POWER SPECIFICATIONS (US model)

POWER OUTPUT AND TOTAL HARMONIC DISTORTION
17 watts per channel minimum continuous average power into 4 ohms, 4 channels driven from 20 Hz to 20 kHz with no more than 1 % total harmonic distortion.

Cassette player section

Tape track: 4-track 2-channel stereo
Wow and flutter: 0.08% (WRMS)
Frequency response: 30 - 20,000 Hz
Signal-to-noise ratio

Cassette type	Dolby B NR	Dolby C NR	Dolby NR off
TYPE II, III, IV	67 dB	73 dB	61 dB
TYPE I	64 dB	70 dB	58 dB

Tuner section

FM

Tuning range: US model
87.5 - 107.9 MHz
E model
FM tuning interval
50 kHz/200 kHz switchable
87.5 - 108.0 MHz (at 50 kHz step)
87.5 - 107.9 MHz (at 200 kHz step)
Antenna terminal: External antenna connector
Intermediate frequency: 10.7 MHz
Usable sensitivity: 9 dBf
Selectivity: 75 dB at 400 kHz
Signal-to-noise ratio: 65 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz: 0.5% (stereo), 0.3% (mono)
Separation: 35 dB at 1 kHz
Frequency response: 30 - 15,000 Hz
Capture ratio: 2 dB

AM (US model)

Tuning range: 530 - 1,710 kHz
Antenna terminal: External antenna connector
Intermediate frequency: 10.71 MHz/450 kHz
Sensitivity: 30 µV

MW (E model)

Tuning range: MW tuning interval
9 kHz/10 kHz switchable
531 - 1,602 kHz (at 9 kHz step)
530 - 1,710 kHz (at 10 kHz step)
Antenna terminal: External antenna connector
Intermediate frequency: 10.71 MHz/450 kHz
Sensitivity: 30 µV

– Continued on next page –

FM/AM CASSETTE CAR STEREO

US Model

FM/MW/SW CASSETTE CAR STEREO

E Model

MICROFILM

992557711

SONY®

SW1, 2 (E model)

Tuning range	SW1 . 2,940 - 7,735 kHz SW2 . 9,500 - 18,135 kHz (except for 10,140 - 11,575 kHz)
Antenna terminal	External antenna connector
Intermediate frequency	10 71 MHz/450 kHz
Sensitivity	50 μV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 - 8 ohms
Maximum power output	40 W × 4 (at 4 ohms) US model · 35 W × 4 (at AM band, 4 ohms) E model . 35 W × 4 (at MW and SW band, 4 ohms)

General

Outputs	Line outputs (3) Power antenna relay control lead Power amplifier control lead
Tone controls	Bass ± 8 dB at 100 Hz Treble ± 8 dB at 10 kHz
Power requirements	12 V DC car battery (negative earth)
Dimensions	Approx. 184 × 50 × 176 mm (7 1/4 × 2 × 6 7/8 in) (w/h/d)
Mounting dimensions	Approx 182 × 53 × 163 mm (7 1/4 × 2 1/8 × 6 1/2 in) (w/h/d)
Mass	Approx 1 3 kg (2 lb. 14 oz)
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1) Rotary remote RM-X2S (1) Wireless remote RM-X45 (1) (E model)

Design and specifications are subject to change without notice.

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

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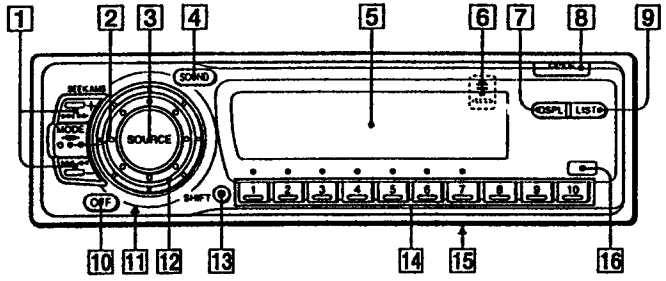
Location of controls



Refer to the pages for details.

1 SEEK/AMS (seek/Automatic Music Sensor/manual search) button 5, 6, 7, 8, 12, 13, 14, 17

2 MODE (band select, changer select, tape transport direction) button 5, 7, 8, 12, 13, 16

3 SOURCE (source select) button 5, 7, 8, 10, 12, 13, 14

4 SOUND button 10

5 Display window

6 ⏏ (eject) button (located on the front of the unit hidden by the front panel) 5

7 DSPL button (display mode change) button 6, 8, 9, 12, 16

8 OPEN button 4, 5, 18

9 LIST button
Disc Memo 15
List-up 9, 15
Station Memo 8

10 OFF button 4, 5

11 Reset button (located on the front of the unit hidden by the front panel) 4

12 Dial (volume/subwoofer volume/bass/treble/balance/fader control) 5, 15

13 SHIFT button
BTM 7
SET UP 5, 10, 11, 12
PLAY MODE 6, 7, 12, 13, 14, 15, 16, 17

14 During radio reception:
Preset number buttons 7, 8
During CD/MD playback:
Direct disc selection buttons 12

15 POWER SELECT switch (located on the bottom of the unit)
See "POWER SELECT switch" in the Installation/Connections manual.

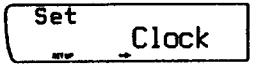
16 Receptor for wireless remote

Setting the clock

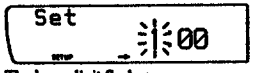
The clock has a 12-hour digital indication.

Example: Set the clock to 10:08

1 Press (SHIFT), then press ② (SET UP).



❶ Press ④ (→).



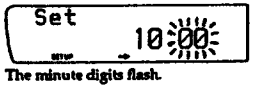
The hour digit flashes.

❷ Set the hour.

to go backward

to go forward

❸ Press ④ (→).

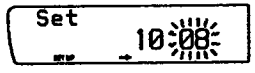


The minute digits flash.

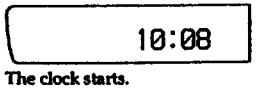
❹ Set the minute.

to go backward

to go forward



2 Press (SHIFT).



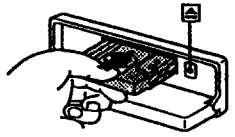
The clock starts.

Note
If the POWER SELECT switch on the bottom of the unit is set to the ⓘ position, turn the power on first, then set the clock. To turn the power on, press (SOURCE).

Cassette Player

Listening to a tape

1 Press (OPEN) and insert a cassette.

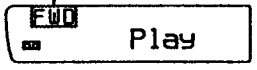


Playback starts automatically.

2 Close the front panel.

If a cassette is already inserted, press (SOURCE) until "FWD" or "REV" appears to start playback.

The side facing up is being played.



The side facing down is being played.

Tips
- *To change the tape transport direction, press (MODE) (◀II▶).*
- *"Metal" appears in the display when you insert a metal or CrO2 tape (Auto Metal function).*

To	Press
Stop playback	(OFF)
Eject the cassette	(OPEN) then ⏏

Fast-winding the tape

During playback, press either side of (SEEK/AMS) for one second.

Fast-forward

Rewind

To start playback while fast-forwarding or rewinding, press (MODE)(◀II▶).

This section extracted from US model's instruction manual.

Locating the beginning of a track
— Automatic Music Sensor (AMS)

You can skip up to nine tracks at one time.

During playback, press either side of (SEEK/AMS) momentarily.

To locate succeeding tracks

To locate preceding tracks

Note

The AMS function may not work when:
- *the blanks between tracks are shorter than four seconds.*
- *there is noise between tracks.*
- *there are long sections of low volume or quiet sections.*

Changing the displayed item

Each time you press (DSPL), the item changes as follows:

→ Tape playback → Clock → Frequency* →

* *While the ATA function is activated.*

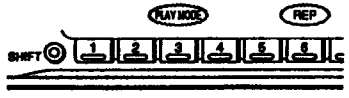
EN

Playing tracks repeatedly

— Repeat play

You can repeat play the current track.

1 During playback press (SHIFT).
Each time you press (SHIFT), only the items you can select light up.



2 Press (6) (REP).
Repeat play starts.

To go back to the normal playback mode, press (6) again.

3 Press (SHIFT).

Playing a tape in various modes

You can play the tape in various modes:
- Intro (Intro Scan) lets you play the first 10 seconds of all the tracks.
- NR (Dolby NR) lets you select the Dolby* NR B or C system.
- ATA (Automatic Tuner Activation) turns on the tuner automatically while fast-winding the tape.
- B.Skip (Blank Skip) skips blanks longer than eight seconds.

* *Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.*

1 Press (SHIFT), then press (3) (PLAY MODE) repeatedly until the desired play mode appears.
Each time you press (3), the item changes as follows:

Intro → NR → ATA → B.Skip

2 Press (4) (→) to select the desired play mode setting (for example: on, NR B).

Playback starts.

3 Press (SHIFT).

To go back to the normal playback mode, select "off" in step 2 above.

Radio

Memorising stations automatically

— Best Tuning Memory (BTM)

The unit selects the stations with the strongest signals and memorizes them. You can store up to 10 stations on each band (FM 1, FM 2 and AM).

Caution

When tuning in stations while driving, use Best Tuning Memory to prevent accidents.

1 Press (SOURCE) repeatedly to select the tuner.
Each time you press (SOURCE), the source changes as follows:

Tape ↔ Tuner

2 Press (MODE) repeatedly to select the desired band.
Each time you press (MODE), the band changes as follows:

→ FM 1 → FM 2 → AM →

3 Press (SHIFT), then press (3) (PLAY MODE) repeatedly until "B.T.M" appears.

4 Press (4) (→) until "B.T.M" flashes.
The unit stores stations in the order of their frequencies on the number buttons.
A beep sounds and the setting is stored

5 Press (SHIFT).

Notes
- *The unit does not store stations with weak signals. If only a few stations are received, some number buttons remain empty.*
- *When a preset number is indicated in the display, the unit starts storing stations from the one currently displayed.*

Memorising only the desired stations

You can store up to 10 stations on each band (20 for FM 1 and FM 2, 10 for AM) in the order of your choice.

1 Press (SOURCE) repeatedly to select the tuner.

2 Press (MODE) repeatedly to select the desired band.

3 Press either side of (SEEK/AMS) to tune in the station you want to store on the number button.

4 Keep the desired number button ((1) to (10)) pressed until "MEM" appears in the display.

The number button indication appears in the display.

Note

If you try to store another station on the same number button, the previously stored station will be erased.

EN

Cassette Player/Radio

Receiving the memorized stations

1 Press (SOURCE) repeatedly to select the tuner.

2 Press (MODE) repeatedly to select the desired band.

3 Press the number button (① to ⑩) momentarily where the desired station is stored.

If you cannot tune in a preset station

Press either side of (SEEK/AMS) momentarily to search for the station (automatic tuning).
Scanning stops when the unit receives a station. Press either side of (SEEK/AMS) repeatedly until the desired station is received.

Note
If the automatic tuning stops too frequently, press (SHIFT), then press ③ (PLAY MODE) repeatedly until "Local" (local seek mode) appears. Then press ④ (→) to select "Local on." Press (SHIFT).
Only the stations with relatively strong signals will be tuned in.

Tip
If you know the frequency of the station you want to listen to, press and hold down either side of (SEEK/AMS) for a few seconds until the desired frequency appears (manual tuning).

If FM stereo reception is poor — Monaural Mode

1 Press (SHIFT), then press ③ (PLAY MODE) repeatedly until "Mono" appears.

2 Press ④ (→) repeatedly until "Mono on" appears.
The sound improves, but becomes monaural ("ST" disappears).

3 Press (SHIFT).
To go back to the normal mode, select "Mono off" in step 2 above.

Changing the displayed item

Each time you press (DSPL), the item changes as follows:

Frequency ⟷ Clock

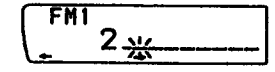
Storing the station names — Station Memo

You can assign a name to each radio station and store it in memory. The name of the station currently tuned in appears in the display. You can store up to eight characters for a station.

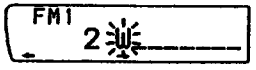
Storing the station names

1 Tune in a station whose name you want to store.

2 Press (LIST) for two seconds.

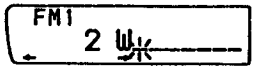


3 Enter the characters.
❶ Rotate the dial in a clockwise direction to select the desired characters.
(A → B → C → ··· Z → 0 → 1 → 2 → ··· 9 → + → − → * → / → \ → > → < → . → _)



If you rotate the dial in a counterclockwise direction, the characters appear in the reverse order.
If you want to put a blank space between characters, select "_" (under-bar).

❷ Press ④ (→) after locating the desired character.
The flashing cursor moves to the next space.



If you press ① (←), the flashing cursor moves to the left.

❸ Repeat steps ❶ and ❷ to enter the entire name.

4 To return to the normal radio reception, press (LIST) for two seconds.

Tip
To erase/correct a name, enter "_" (under-bar) for each character.

Displaying the station name

Press (DSPL) during radio reception.

Each time you press (DSPL), the item changes as follows:

→ Frequency → Clock → Station name* →

** If the station name is not stored, "NO Name" appears in the display for one second.*

Erasing the station name

1 Tune in any station and press (LIST) for two seconds.

2 Press (DSPL) for two seconds.
"Delete" and the station name appear in the display.

3 Rotate the dial to select the name that you want to erase.

4 Press ⑤ (ENTER) for two seconds.
The name is erased.
Repeat steps 3 and 4 if you want to erase other names.

5 Press (LIST) for two seconds.
The unit returns to the normal radio reception mode.

Locating a station by frequency and name — List-up

You can search for the memorized stations names in the display.

1 Press (LIST) momentarily.
The frequency or the name assigned to the station currently receiving appears in the display.

2 Press (LIST) repeatedly until you find the desired station.

3 Press ⑤ (ENTER) to tune in the desired station.

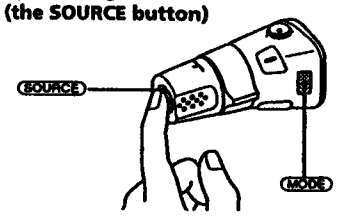
Note
Once the station name or frequency has been displayed for five seconds, the display goes back to its normal mode.
To go back to the normal mode, press (DSPL).

Other Functions

Using the rotary remote

The rotary remote works by pressing buttons and/or rotating controls.
You can control the optional CD or MD changer with the rotary remote.

By pressing the button (the SOURCE button)

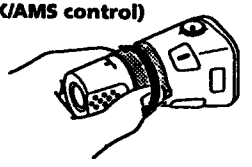


Each time you press (SOURCE), the source changes as follows:
Tuner → CD → MD → Tape

Pressing (MODE) changes the operation in the following ways
- the tape transport direction
- the band: FM1 → FM2 → AM
- the CD changer: CD1 → CD2 → ....
- the MD changer: MD1 → MD2 → ....

Tip
You can turn on this unit by pressing (SOURCE) on the rotary remote.

By rotating the control (the SEEK/AMS control)

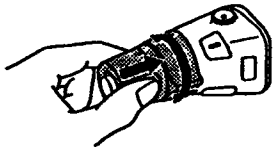


Rotate the control momentarily and release it to:
- Locate the beginnings of the tracks on the tape. Rotate and hold the control, and release it to fast-wind the tape. To playback, rotate and hold the control again, and release it.
- Locate a specific track on a disc. Rotate and hold the control until you locate the specific point in a track, then release it to start playback.

continue to next page →

• Tune in stations automatically. Rotate and hold the control to tune in the specific station.

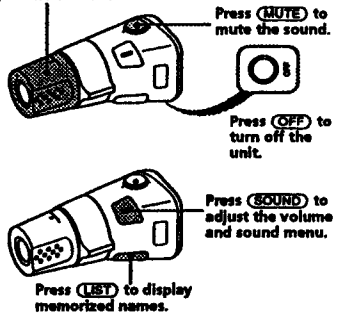
By rotating the control while pushing in (the PRESET/DISC control)



Push in and rotate the control to:
• Receive the stations memorized on the preset buttons.
• Change the disc.

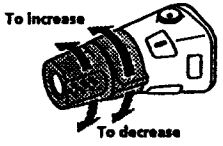
Other operations

Rotate the VOL control to adjust the volume.

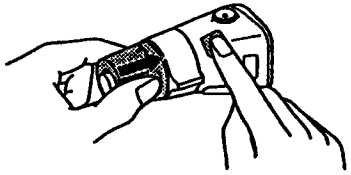

Press (MUTE) to mute the sound.
Press (OFF) to turn off the unit.
Press (SOUND) to adjust the volume and sound menu.
Press (LIST) to display memorized names.

Changing the operative direction

The operative direction of controls is factory preset as in the illustration below.



If you need to mount the rotary remote on the right of the steering column, you can reverse the operative direction of the controls.



Press (DSPL) two seconds while pusing the VOL control.

Tip
You can change the operative direction of controls with the unit, refer to "Changing the sound and display settings" (page 11).

Adjusting the sound characteristics

You can adjust the subwoofer volume, bass, treble, balance and fader.
Each source can store the sub output, bass and treble level respectively.

1 Select the item you want to adjust by pressing (SOUND) repeatedly.

VOL (volume) → SUB (subwoofer volume) → BAS (bass) → TRE (treble) → BAL (balance) → FAD (fader)

2 Adjust the selected item by rotating the dial.
Adjust within three seconds after selection. (After three seconds, the dial works as the volume control dial.)

Muting the sound

The unit decreases the volume automatically when a telephone call is received (Telephone-mute function).

Changing the sound and display settings

You can set:
• Clock (page 5)
• D. Info (Dual Information) to display the clock and the play mode at the same time (ON), or to display the information alternately (OFF).
• Amber/Green to change the illumination color to amber or green.
• Dimmer to change the brightness of the display.
— Select "Auto" to dim the display only when you turn the lights on.
— Select "on" to dim the display.
• Contrast to adjust the contrast if the indications in the display are not recognizable because of the unit's installed position.
• Beep to turn on or off the beeps.
• RM (Rotary Remote) to change the operative direction of the controls of the rotary remote.
— Select "norm" to use the rotary remote in the factory preset position.
— Select "rev" when you mount the rotary remote on the right side of the steering column.
• Loud (Loudness) to enjoy bass and treble even at low volume. The bass and treble will be reinforced.
• LPF (Low Pass Filter)
• A. Scrl (Auto Scroll) (page 12)
• Disc MEMO/TEXT name (Disc memo/CD-TEXT name) to set the priority display item when you connect an optional CD changer with the CD-TEXT and disc memo function.

Note
The displayed item will differ depending on the source.

1 Press (SHIFT), then press ② (SET UP).

2 Press ② (SET UP) repeatedly until the desired setting mode appears.

Each time you press ② (SET UP), the item changes as follows:

Clock → D.Info → Amber/Green → Dimmer → Contrast → Beep → RM → Loud → LPF → A.Scrl → Disc MEMO/TEXT name

3 Press ④ (→) to select the desired setting (for example: "on" or "off").
For the "Contrast" setting, pressing ④ (→) makes the contrast higher, and pressing ① (←) makes the contrast lower

4 Press (SHIFT).
When the mode setting is complete, the normal playback mode appears.

Adjusting the frequency of the subwoofer(s)

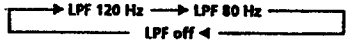
To match the characteristics of the connected subwoofer(s), you can cut out the unwanted high and middle frequency signals entering the subwoofer(s). By setting the cut-off frequency, the subwoofer(s) will output only low frequency signals so you can get a clearer sound image.

1 Press (SOURCE) to select a source (radio, tape, CD, or MD).

2 Press (SHIFT), then press ② (SET UP) repeatedly until "LPF" appears.

3 Press ④ (→) repeatedly to select desired setting.

Each time you press ④ (→), the cut-off frequency in the display changes as follows:



If you press ① (←), the items appear in reverse order.

4 Press (SHIFT).
When the frequency setting is complete, the display goes back to the normal playback mode.

With Optional Equipment

CD/MD Changer

If you connect an optional CD changer with the CD-TEXT function, the CD-TEXT information will appear in the display when you playback a CD-TEXT disc.

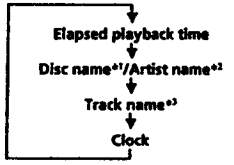
Playing a CD or MD

1 Press (SOURCE) repeatedly to select the CD or MD.

2 Press (MODE) until the desired changer indication appears in the display.
CD/MD playback starts.

Changing the displayed item

Each time you press (DSPL) during CD, CD-TEXT or MD playback, the item changes as follows:



*1 *If you have not labeled the CD or there is no disc name prerecorded on the MD, "NO D. Name" appears in the display.*

*2 *If you play a CD-TEXT disc, the artist name appears in the display after the disc name. (Only for CD-TEXT discs with the artist name)*

*3 *If the track name of a CD-TEXT disc or MD is not prerecorded, "NO T. Name" appears in the display.*

You can label a personalized name for CDs and CD-TEXT discs with the disc memo function, refer to "Labeling a CD" (page 15).

Tip

If the name of the CD-TEXT disc or MD is too long, you can scroll it across the display by pressing (SHIFT), then (1) (←).

Automatically scrolling a disc name — Auto Scroll

If the disc name/artist name or track name on a CD-TEXT or MD disc exceeds 10 characters and the Auto Scroll function is on, automatically scrolls on the display as follows.

- *The disc name appears when the disc has changed (if the disc name is selected).*
- *The track name appears when the track has changed (if the track name is selected).*
- *The disc or track name appears depending on the setting when you press (SOURCE) to select an MD or CD-TEXT disc.*

If you press (DSPL) to change the display item, the disc or track name of the MD or CD-TEXT disc is scrolled automatically whether you set the function on or off.

1 Press (SHIFT), then press (2) (SET UP) repeatedly until "A. Scrl" appears.

2 Press (4) (→) to select "A. Scrl on."

3 Press (SHIFT).

To cancel Auto Scroll, select "A. Scrl off" in step 2 above.

Note

For some CD-TEXT discs with extremely many characters, the following cases may happen:
- Some of the characters are not displayed.
- Auto Scroll does not work.

Displaying the recording date of the currently selected MD

Press (DSPL) for two seconds during MD playback.
The recording date of the track is displayed for about three seconds.

Locating a specific track — Automatic Music Sensor (AMS)

During playback, press either side of (SEEK/AMS) once for each track you wish to skip.

To locate succeeding tracks

To locate preceding tracks

Locating a specific point in a track — Manual Search

During playback, press and hold either side of (SEEK/AMS). Release the button when you have found the desired point.

To search forward

To search backward

Locating a disc by disc number — Direct Disc Selection

Press the number button that corresponds with the desired disc number.
The desired disc in the currently selected changer begins playback.

Scanning the tracks — Intro Scan

You can play the first 10 seconds of all the tracks on the current disc.

1 During playback, press (SHIFT), then press (3) (PLAY MODE) repeatedly until "Intro" appears.

2 Press (4) (→) repeatedly until "Intro on" appears.
Intro Scan starts.

3 Press (SHIFT).

To go back to the normal playback mode, select "Intro off" in step 2 above.

Playing tracks repeatedly — Repeat Play

You can select:
- Repeat 1 to repeat a track.
- Repeat 2 to repeat a disc.
- Repeat 3 to repeat all the discs in the current changer when you connect two or more changers.

1 During playback, press (SHIFT), then press (6) (REP) repeatedly until "Repeat" appears.

2 Press (6) (REP) repeatedly until the desired setting appears.

→ Repeat 1 → Repeat 2 → Repeat 3 → Repeat off ←

Repeat play starts.

3 Press (SHIFT).

To go back to the normal playback mode, select "Repeat off" in step 2 above.

Playing tracks in random order — Shuffle Play

You can select:
- Shuf 1 to play the tracks on the current disc in random order.
- Shuf 2 to play the tracks in the current changer in random order.
- Shuf 3 to play all the tracks in random order when you connected two or more changers.

1 During playback, press (SHIFT), then press (7) (SHUF) repeatedly until "Shuf" appears.

2 Press (7) (SHUF) repeatedly until the desired setting appears.

→ Shuf 1 → Shuf 2 → Shuf 3 → Shuf off ←

Shuffle play starts.

3 Press (SHIFT).

To go back to the normal playback mode, select "Shuf off" in step 2 above.

Creating a program — Program Memory (CD/MD changer with program memory function)

You can play tracks in the order you want by making your own program. You can make two programs: Program 1 and Program 2. You can select up to 12 tracks for each program. You can store the programs in memory.

1 Press (SHIFT), then press (3) (PLAY MODE) for two seconds.

Program edit mode

"P1" shows Program 1 is selected.

If you have labeled the disc, the bank edit mode appears. Press (3) (PLAY MODE) to display "P1" above.

To select Program 2, press (4) (→) repeatedly until "P2" appears.

2 Select the track you want.

❶ Press (SOURCE) repeatedly to select the CD or MD.

❷ Press (MODE) repeatedly to select the changer.

❸ Press (SHIFT), then press the number button to select the disc.

❹ Press (SHIFT).

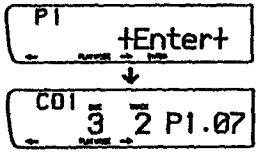
❺ Press either side of (SEEK/AMS) to select the track.

EN

CD/MD Changer

continue to next page →

3 Press ⑤ (ENTER) momentarily.



4 To continue entering tracks, repeat steps 2 and 3.

5 When you finish entering tracks, press ③ (PLAY MODE) for two seconds.

6 Press (SHIFT).

Notes
- *"*Wait*" appears in the display while the unit is reading the data, or when a disc has not been put into the unit.*
- *"*Mem full*" appears in the display when you try to enter more than 12 tracks into a program.*

EN

Playing the stored program

Changing the disc order in the changer will not affect program memory play.

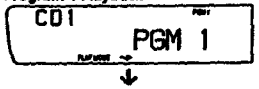
You can select:
- PGM 1 to play Program 1.
- PGM 2 to play Program 2.
- PGM 1+2 to play Programs 1 and 2.

1 Press (SHIFT).

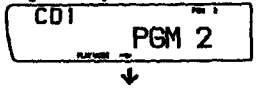
2 Press ③ (PLAY MODE) repeatedly until "PGM" appears.

3 Press ④ (→) repeatedly until the desired program appears.
Program play starts.

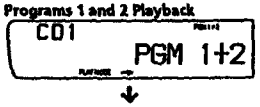
Program 1 Playback



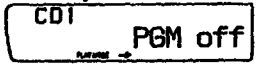
Program 2 Playback



Programs 1 and 2 Playback



Normal Playback



4 Press (SHIFT).

To go back to the normal playback mode, select "PGM off" in step 3 above.

Notes
- *If you press a number button during program memory play, program memory play is interrupted, and playback of the selected disc starts.*
- *"NO Data" appears in the display if no track is stored in the program.*
- *If a track stored into the program memory is not in the disc magazine, the track will be skipped.*
- *When the disc magazine contains not a single track stored into the program memory, or when the program information has not been loaded yet, "Not Ready" appears.*

Erasing the entire program

1 Press (SHIFT), then press ③ (PLAY MODE) for two seconds.
If you have labeled the disc, the bank edit mode appears. Press ③ (PLAY MODE) to display "P1" above.

2 Press ① (←) repeatedly until "DEL" appears.

To erase Program 2, press ④ (→) repeatedly until "P2" appears.

3 Press ⑤ (ENTER) for two seconds.

The entire program is erased.

4 When you finish erasing programs, press ③ (PLAY MODE) for two seconds.

5 Press (SHIFT).

Adding tracks to the program

1 Press (SHIFT), then press ③ (PLAY MODE) for two seconds.
If you have labeled the disc, the bank edit mode appears. Press ③ (PLAY MODE) to display "P1" above.

To select Program 2, press ④ (→) repeatedly until "P2" appears.

2 Press ① (←) or ④ (→) to select the track slot number where you want to insert a track.

Track slot number

3 Press either side of (SEEK/AMS) to select the track you want to insert.

4 Press ⑤ (ENTER) momentarily to enter the track.
The current track in that slot number and the succeeding tracks shift down.
To continue inserting tracks, repeat steps 2 through 4.

Note
*Once all 12 slots have been filled, "*Mem full*" appears in the display, and you cannot insert tracks.*

5 When you finish inserting tracks, press ③ (PLAY MODE) for two seconds.

6 Press (SHIFT).

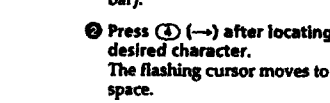
Erasing the tracks in the program

1 Press (SHIFT), then press ③ (PLAY MODE) for two seconds.
If you have labeled the disc, the bank edit mode appears. Press ③ (PLAY MODE) to display "P1" above.

To select Program 2, press ④ (→) repeatedly until "P2" appears.

2 Press ① (←) or ④ (→) to select the track you want to erase.

Track Slot Number



The track currently registered in slot 6 of Program 1.

3 Press ⑤ (ENTER) for two seconds.
When you erase a track from a slot number, the succeeding tracks shift up to fill the gap.

4 To continue erasing tracks, repeat steps 2 and 3.

5 When you finish erasing tracks, press ③ (PLAY MODE) for two seconds.

6 Press (SHIFT).

Labeling a CD

— Disc Memo/Custom File
(CD changer with custom file function)

You can label each disc with a personalized name. You can enter up to 8 characters for a disc. If you label a CD, you can locate a disc by name (page 16) and select the specific tracks for playback (page 16).

1 Play the CD and press (LIST) for two seconds.

2 Enter the characters.

❶ Rotate the dial clockwise to select the desired characters.
(A → B → C → ··· Z → 0 → 1 → 2 → ··· 9 → + → − → * → / → \ → > → < → . → _)

If you rotate the dial counterclockwise, the characters appear in reverse order.
If you want to put a blank space between characters, select "_" (underbar).

❷ Press ④ (→) after locating the desired character.
The flashing cursor moves to the next space.

If you press ① (←), the flashing cursor moves to the left.

❸ Repeat steps ❶ and ❷ to enter the entire name.

3 To return to the normal CD playback mode, press (LIST) for two seconds.

Tip
To erase/correct a name, enter "_" (under-bar) for each character.

EN

CD/MD Changer

Displaying the disc memo

During playback, press (DSPL).

Each time you press (DSPL) during CD playback, the item changes as follows:

→ Elapsed playback time → Disc name*1 →
← Clock ← Track name*2 ←

*1 *When you connect an optional CD changer with the CD-TEXT function, the personalized label or the CD-TEXT disc name appears. See below to change the display.*
- To change the displayed item press (4) (→).
- To change the display using Display settings (page 11).

The display item will change depending on the setting as follows.

Type of disc	Priority display setting	Actual display
A	D.MEMO	Disc memo
	CD-TEXT	CD-TEXT information
B	D.MEMO	Disc memo
	CD-TEXT	
C	D.MEMO	CD-TEXT information
	CD-TEXT	
D	D.MEMO	NO D. Name
	CD-TEXT	

A: CD-TEXT disc with disc memo
B: Normal CD with disc memo
C: CD-TEXT disc without disc memo
D: Normal CD without disc memo

*2 *If you connect an optional CD changer with the CD-TEXT function, the CD-TEXT information will appear on the display when you playback a CD-TEXT disc.*

Erasing the disc memo

1 Press (SOURCE) repeatedly to select CD.

2 Press (MODE) repeatedly to select the CD changer.

3 Press (LIST) for two seconds.

4 Press (DSPL) for two seconds.
"Delete" and the disc memo appear in the display.

5 Rotate the dial to select the name you want to erase.

6 Press (5) (ENTER) for two seconds.
The name is erased.
Repeat steps 5 and 6 if you want to erase other names.

7 Press (LIST) for two seconds.
The unit returns to the normal CD playback mode.

Locating a disc by name

— List-up (CD changer with custom file function or MD changer)

You can use this function for the discs that have been assigned a personalized name. For more information on disc names, refer to "Labeling a CD" (page 15).

1 Press (LIST) momentarily.
The names assigned to the disc currently playing and the next disc to be played appear in the display. The name assigned to currently playing disc is flashing.

If you add disc memo labels to a CD-TEXT disc, the display setting you make will determine which information is displayed. If the disc has only one set of information (either CD-TEXT or disc memo labels), that information will be displayed regardless of the display setting you make.

2 Press (LIST) repeatedly until you find the desired disc.

3 Press (5) (ENTER) to play back the disc.

Notes
- *To go back to the normal display, press (DSPL). Once a disc name has been displayed for five seconds, the display goes back to the normal playback mode.*
- *The track names are not displayed during MD playback.*
- *If there are no discs in the magazine, "NO Disc" appears in the display.*
- *If a disc has not been assigned a custom file, "--------" appears in the display.*
- *If the disc information has not been read by the unit, "?" appears in the display. To load the disc, first press a number button, then choose a disc that has not been loaded.*
- *The information appears only in upper cases. There are also some letters which cannot be displayed (during MD playback).*

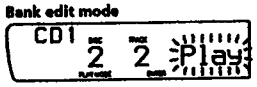
Selecting the specific tracks for playback

— Bank/Custom File (CD changer with custom file function)

If you label the disc, you can set the unit to skip tracks and play only the tracks you want.

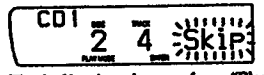
1 Start playing the disc and press (SHIFT). Then press (3) (PLAY MODE) for two seconds.

Bank edit mode



Note
If you have not labeled the disc, the bank edit mode does not appear and the program edit mode appears. To go back to the normal playback mode, press (3) (PLAY MODE) for two seconds.

2 Press either side of (SEEK/AMS) to select the track number you want to skip and press (5) (ENTER).



The indication changes from "Play" to "Skip." If you want to return to "Play," press (5) (ENTER) again.

3 Repeat step 2 to set the "Play" or "Skip" mode on all the tracks.

4 Press (3) (PLAY MODE) for two seconds.

5 Press (SHIFT).

Notes
- *You can set the "Play" and "Skip" modes on up to 24 tracks.*
- *You cannot set the "Skip" mode on all the tracks.*

Playing the specific tracks only

You can select:
- Bank on to play the tracks with the "Play" setting.
- Bank inv (inverse) to play the tracks with the "Skip" setting.

1 During playback, press (SHIFT), then press (3) (PLAY MODE) repeatedly until "Bank" appears.

2 Press (4) (→) repeatedly until the desired setting appears.

→ Bank on → Bank inv → Bank off →

Playback starts from the track following the current one.

3 Press (SHIFT).

To go back to the normal playback mode, select "Bank off" in step 2 above.

Additional Information

Precautions

- If your car was parked in direct sunlight resulting in a considerable rise in temperature inside the car, allow the unit to cool off before operating it.
- If no power is being supplied to the unit, check the connections first. If everything is in order, check the fuse.
- If no sound comes from the speakers of a two-speaker system, set the fader control to the center position.
- If your car is equipped with a power antenna, note that it will extend automatically while the tuner function is selected.

If you have any questions or problems concerning your unit that are not covered in this manual, please consult your nearest Sony dealer.

To maintain high quality sound

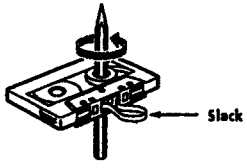
If you have drink holders near your audio equipment, be careful not to splash juice or other soft drinks onto the car audio. Sugary residues on this unit or cassette tapes may contaminate the playback heads, reduce the sound quality, or prevent sound reproduction altogether.
Cassette cleaning kits do not remove sugar from the tape heads.

Notes on cassette deck tape head

- Long use of cassette tapes contaminates the tape head causing poor sound quality or complete sound dropout. Therefore, we recommend cleaning the tape head once a month or so with the separately available Sony Cassette Cleaning Set. If the sound does not improve after using a cleaning cassette, please consult your nearest Sony dealer.
- In case of old or inferior cassette tapes, the tape head gets contaminated much more quickly. Depending on the tape, one or two playbacks may cause poor sound.

Cassette care

- Do not touch the tape surface of a cassette, as any dirt or dust will contaminate the heads.
- Keep cassettes away from equipment with built-in magnets such as speakers and amplifiers, as erasure or distortion on the recorded tape could occur.
- Do not expose cassettes to direct sunlight, extremely cold temperatures or moisture.
- Slack in the tape may cause the tape to be caught in the machine. Before you insert the tape, use a pencil or similar object to turn the reel and take up any slack.



- Distorted cassettes and loose labels can cause problems when inserting or ejecting tapes. Remove or replace loose labels.

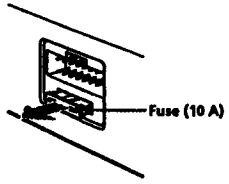
Cassettes longer than 90 minutes

The use of cassettes longer than 90 minutes is not recommended except for long continuous play. The tapes used for these cassettes are very thin and tend to be stretched easily. Frequent playing and stopping of these tapes may cause them to be pulled into the cassette deck mechanism.

Maintenance

Fuse replacement

When replacing the fuse, be sure to use one that matches the amperage described on the fuse. If the fuse blows, check the power connection and replace the fuse. If the fuse blows again after replacement, there may be an internal malfunction. In such a case, consult your nearest Sony dealer.

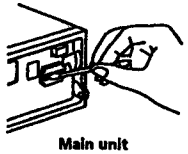


Warning

Never use a fuse with an amperage rating exceeding the one supplied with the unit as this could damage the unit.

Cleaning the connectors

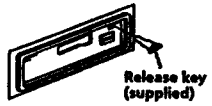
The unit may not function properly if the connectors between the unit and the front panel are not clean. To prevent this, open the front panel by pressing (OPEN), then detach it and clean the connectors with a cotton swab dipped in alcohol. Do not apply too much force. Otherwise, the connectors may be damaged.

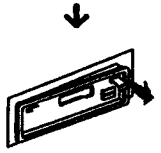


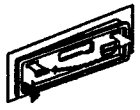
Main unit

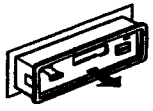
Back of the front panel

Dismounting the unit

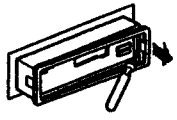








Press the clip inside the front cover with a thin screwdriver, and lever the front cover free.



Connections

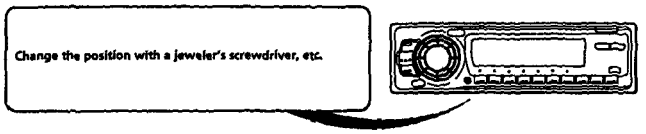
Caution

- This unit is designed for negative earth 12 V DC operation only
- Before making connections, disconnect the earth terminal of the car battery to avoid short circuits.
- Connect the yellow and red power input leads only after all other leads have been connected.
- Be sure to connect the red power input lead to the positive 12 V power terminal which is energized when the ignition key is in the accessory position.
- Run all earth wires to a common earth point.
- Connect the yellow cord to a free car circuit rated higher than the unit's fuse rating. If you connect this unit in series with other stereo components, the car circuit they are connected to must be rated higher than the sum of the individual components' fuse rating. If there are no car circuits rated as high as the unit's fuse rating, connect the unit directly to the battery. If no car circuits are available for connecting this unit, connect the unit to a car circuit rated higher than the unit's fuse rating in such a way that if the unit blows its fuse, no other circuits will be cut off.

If your car has no accessory position on the ignition key switch — POWER SELECT switch

The illumination on the front panel is factory set to be turned on even when the unit is not being played. However, this setting may cause some car battery wear if your car has no accessory position on the ignition key switch. To avoid this battery wear, set the POWER SELECT switch located on the bottom of the unit to the ⏻ position, then press the reset button. The illumination is reset to stay off while the unit is not being played.

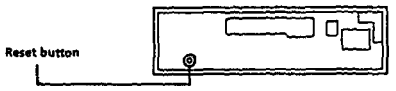
Note
The caution alarm for the front panel is not activated when the POWER SELECT switch is set to the ⏻ position.



When you change the position of the switch, be sure to press the reset button after the connections are completed.

Reset Button

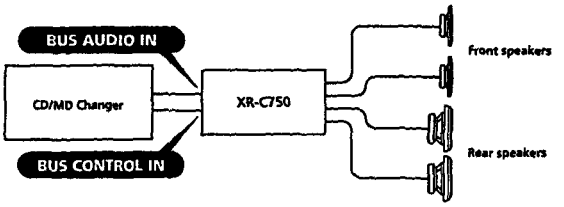
When the installation and connections are complete, be sure to press the reset button with a ball-point pen etc.



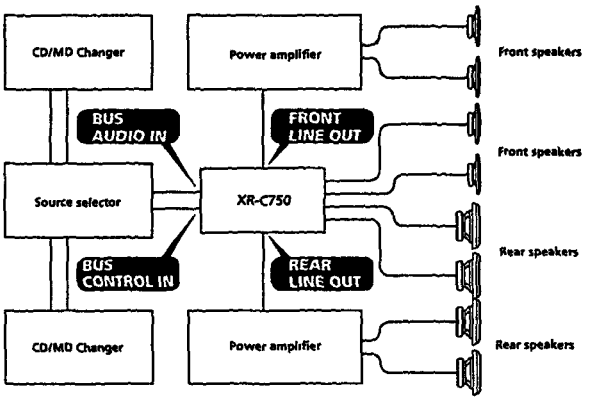
Connection Diagram

If you connect an optional power amplifier and do not use the built-in amplifier, the beep-tone will be disabled.
For connecting two or more changers, the source selector XA-C30 (optional) and the BUS cable RC-61 (1 m) or RC-62 (2 m) (optional) are necessary.

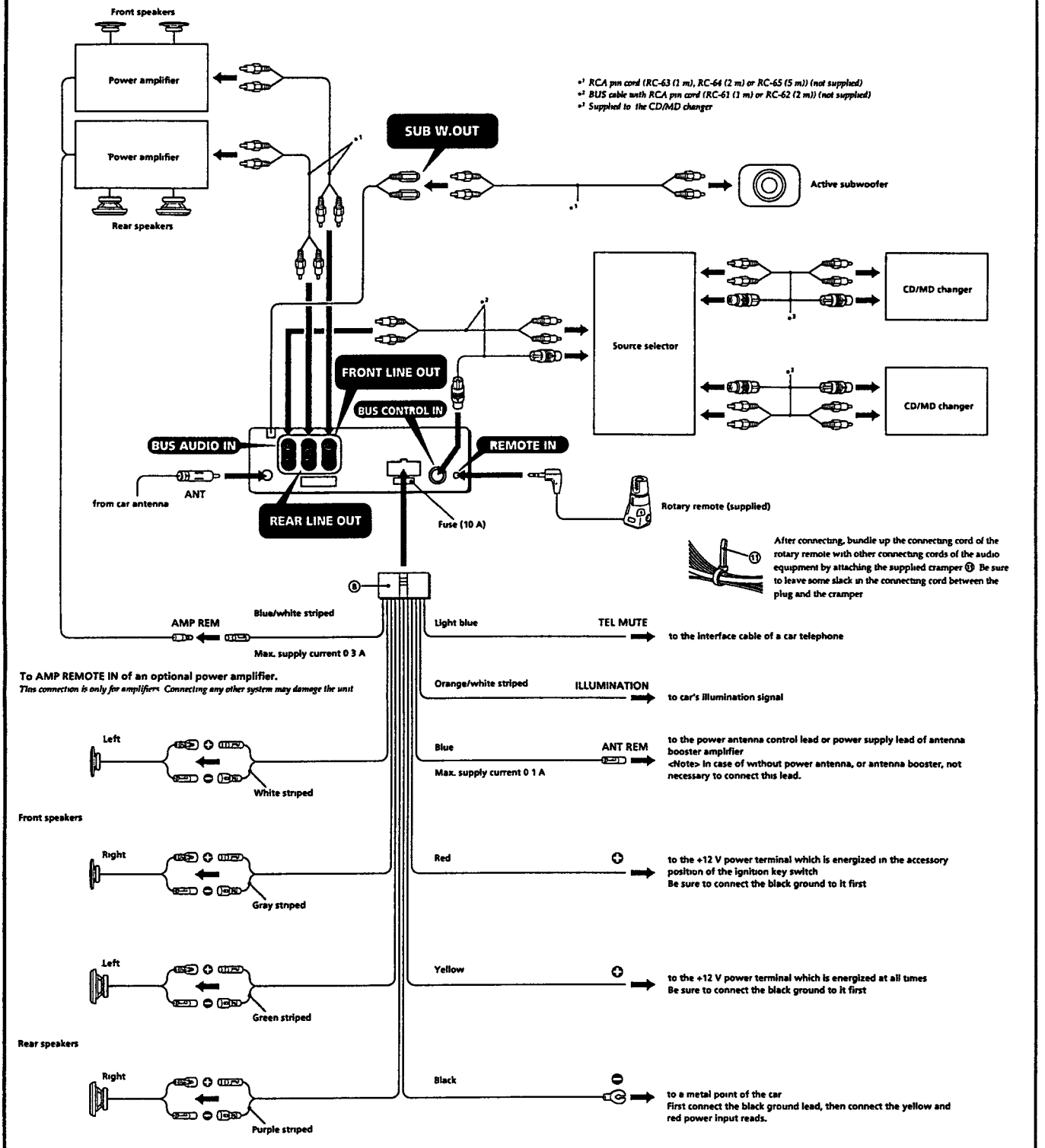
Example 1



Example 2



Connections of Example


Front speakers
Power amplifier
Power amplifier
Rear speakers
*1 RCA pin cord (RC-63 (1 m), RC-64 (2 m) or RC-65 (5 m)) (not supplied)
*2 BUS cable with RCA pin cord (RC-61 (1 m) or RC-62 (2 m)) (not supplied)
*3 Supplied to the CD/MD changer
SUB W.OUT
Active subwoofer
Source selector
CD/MD changer
CD/MD changer
FRONT LINE OUT
BUS CONTROL IN
BUS AUDIO IN
REMOTE IN
ANT
from car antenna
REAR LINE OUT
Fuse (10 A)
Rotary remote (supplied)
After connecting, bundle up the connecting cord of the rotary remote with other connecting cords of the audio equipment by attaching the supplied cramper ⑪. Be sure to leave some slack in the connecting cord between the plug and the cramper
AMP REM
Blue/white striped
Max. supply current 0.3 A
To AMP REMOTE IN of an optional power amplifier.
This connection is only for amplifiers. Connecting any other system may damage the unit
Light blue
TEL MUTE
to the interface cable of a car telephone
Orange/white striped
ILLUMINATION
to car's illumination signal
Left
White striped
Blue
ANT REM
Max. supply current 0.1 A
to the power antenna control lead or power supply lead of antenna booster amplifier
<Note> In case of without power antenna, or antenna booster, not necessary to connect this lead.
Front speakers
Right
Gray striped
Red
to the +12 V power terminal which is energized in the accessory position of the ignition key switch
Be sure to connect the black ground to it first
Left
Green striped
Yellow
to the +12 V power terminal which is energized at all times
Be sure to connect the black ground to it first
Rear speakers
Right
Purple striped
Black
to a metal point of the car
First connect the black ground lead, then connect the yellow and red power input leads.

Notes on the control leads

- *The power antenna control lead (blue) supplies +12 V DC when you turn on the tuner or when you activate the ATA (Automatic Tuner Activation) Function.*
- *A power antenna without relay box cannot be used with this unit*

Memory hold connection

When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off

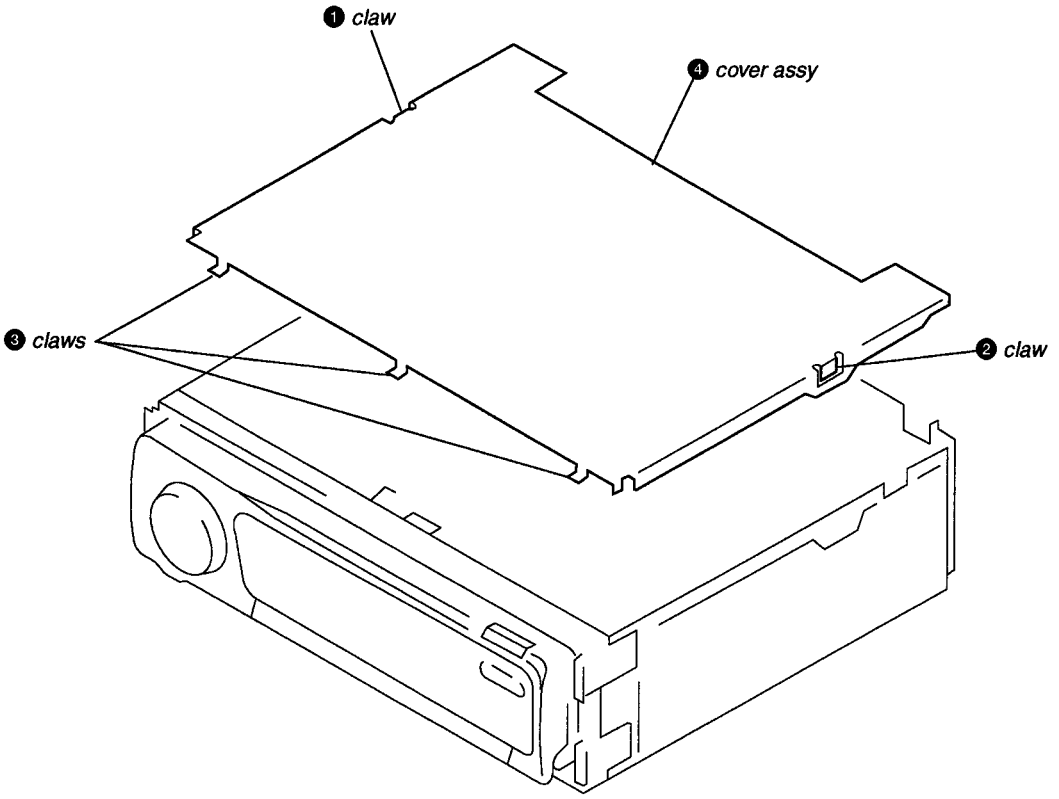
Notes on speaker connection

- *Before connecting the speakers, turn the unit off*
- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged*
- *Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker*
- *Do not attempt to connect the speakers in parallel*
- *Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Therefore, be sure to connect passive speakers to these terminals.*

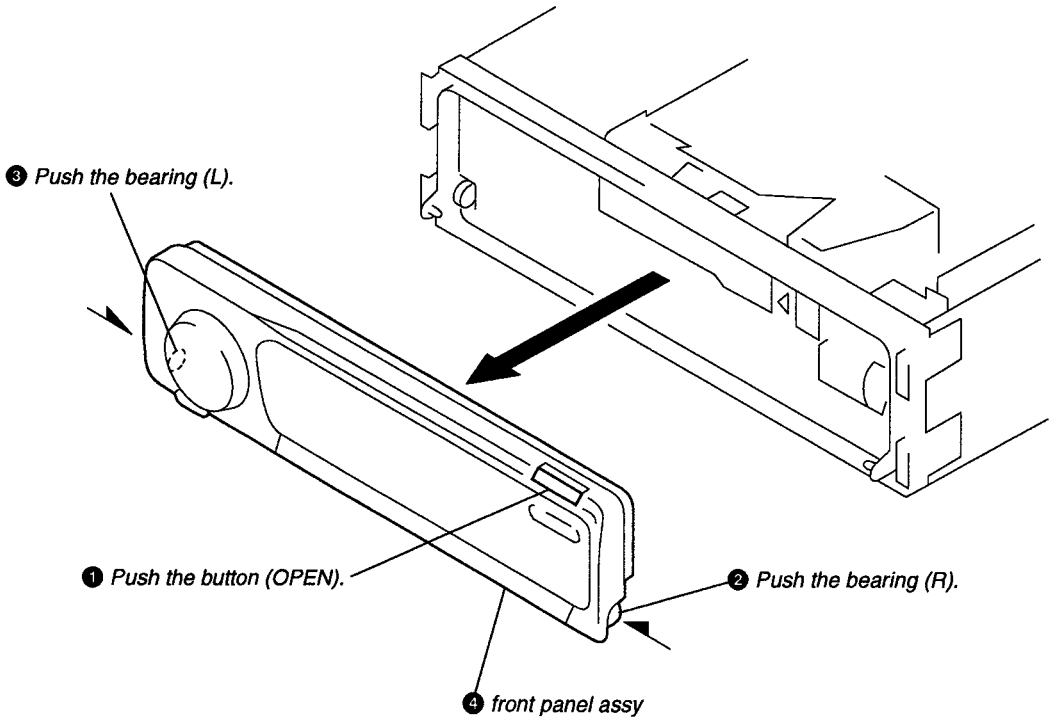
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

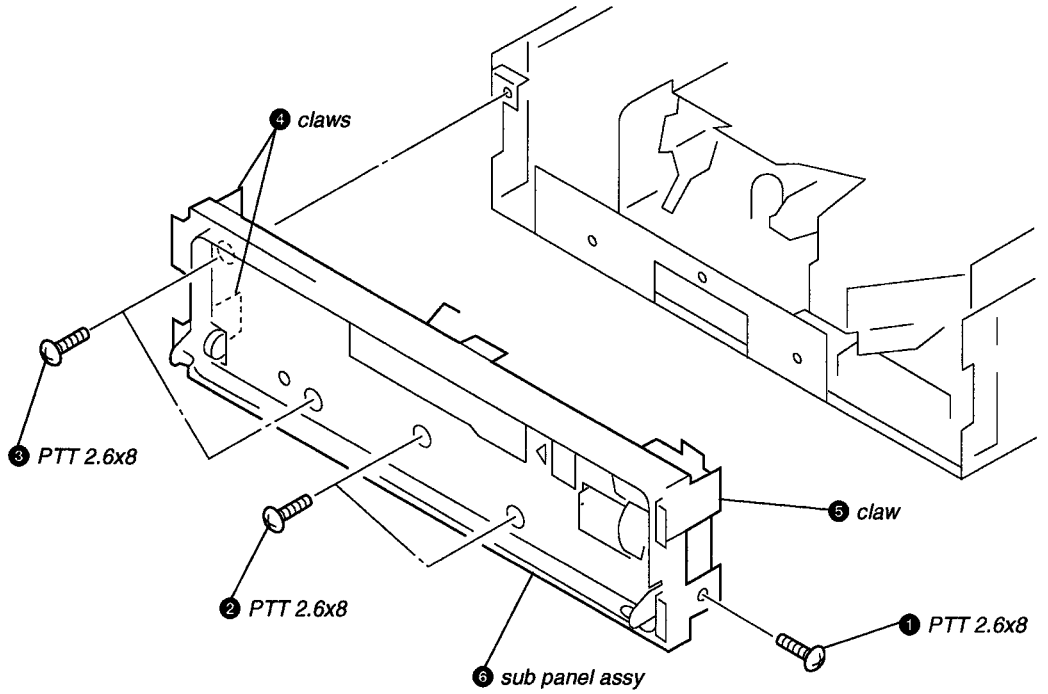
2-1. COVER ASSY



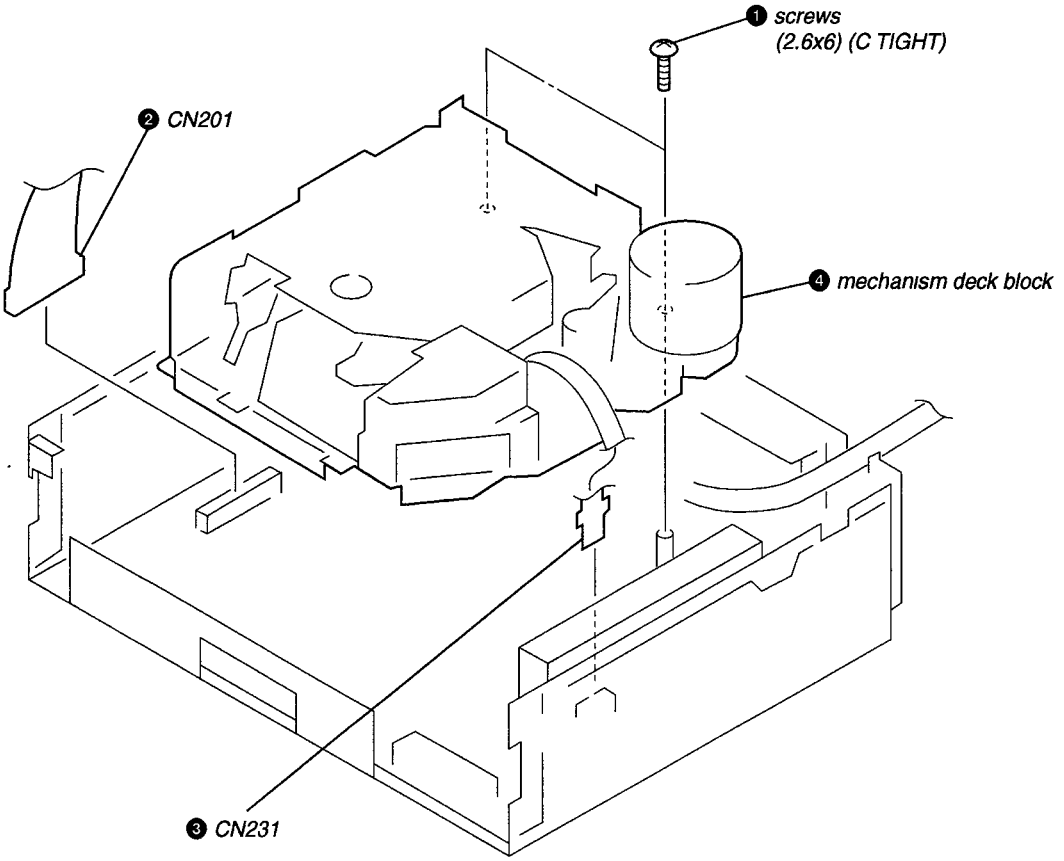
2-2. FRONT PANEL ASSY



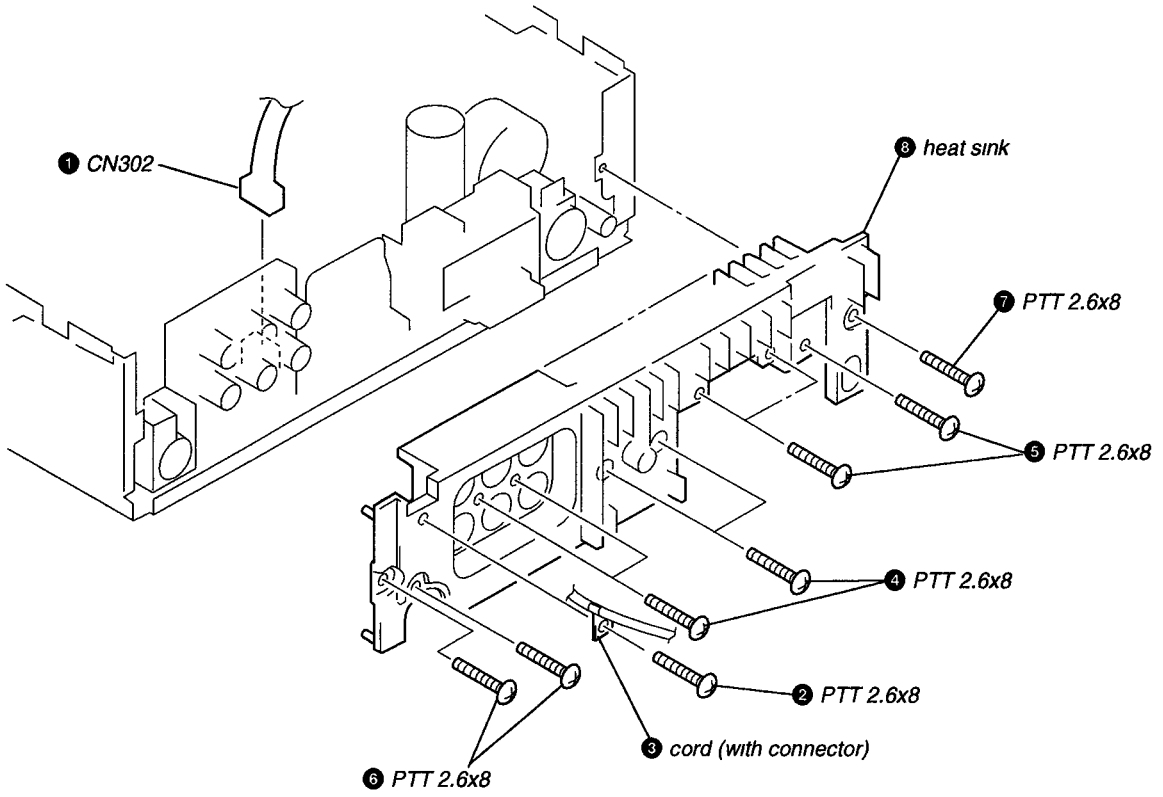
2-3. SUB PANEL ASSY



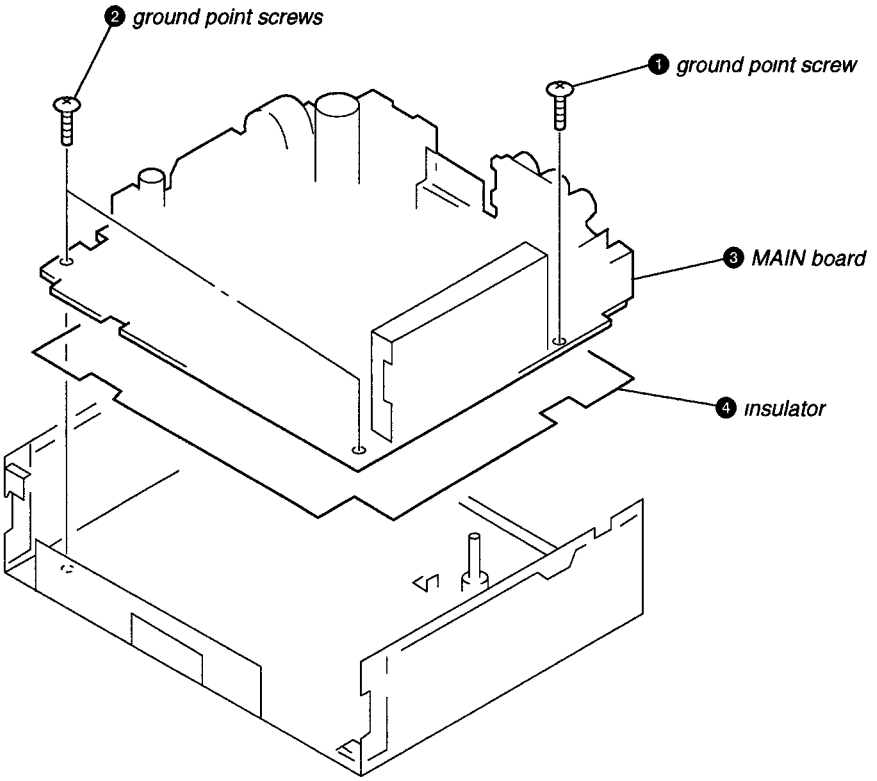
2-4. MECHANISM DECK BLOCK



2-5. HEAT SINK



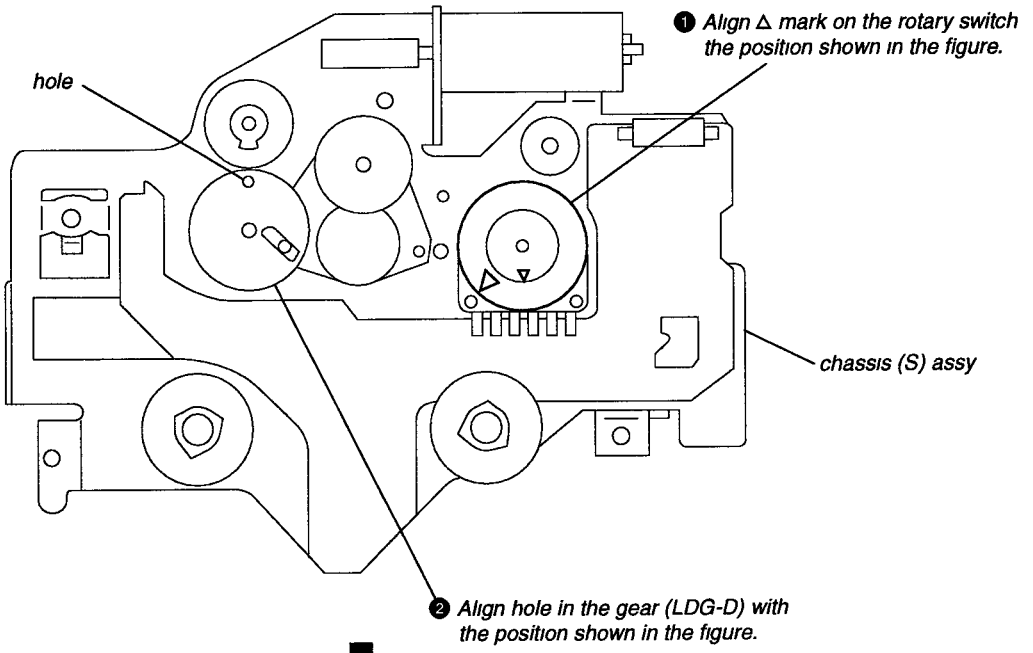
2-6. MAIN BOARD



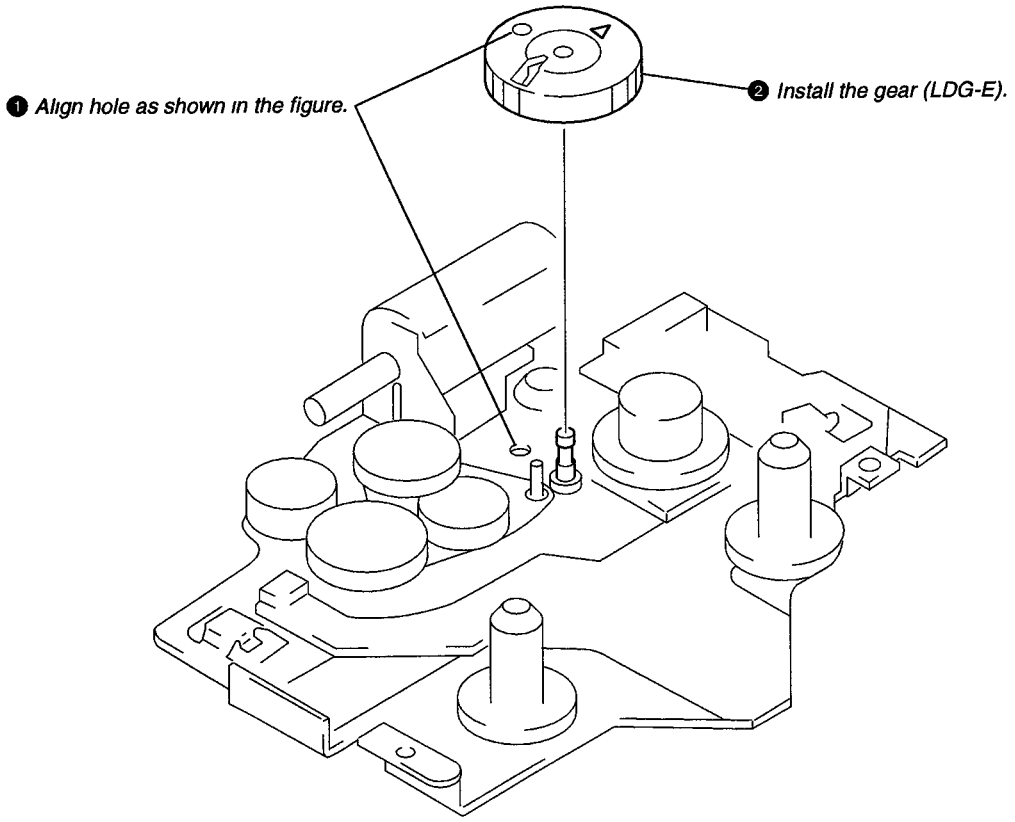
SECTION 3
ASSEMBLY OF MECHANISM DECK

Note : Follow the assembly procedure in the numerical order given.

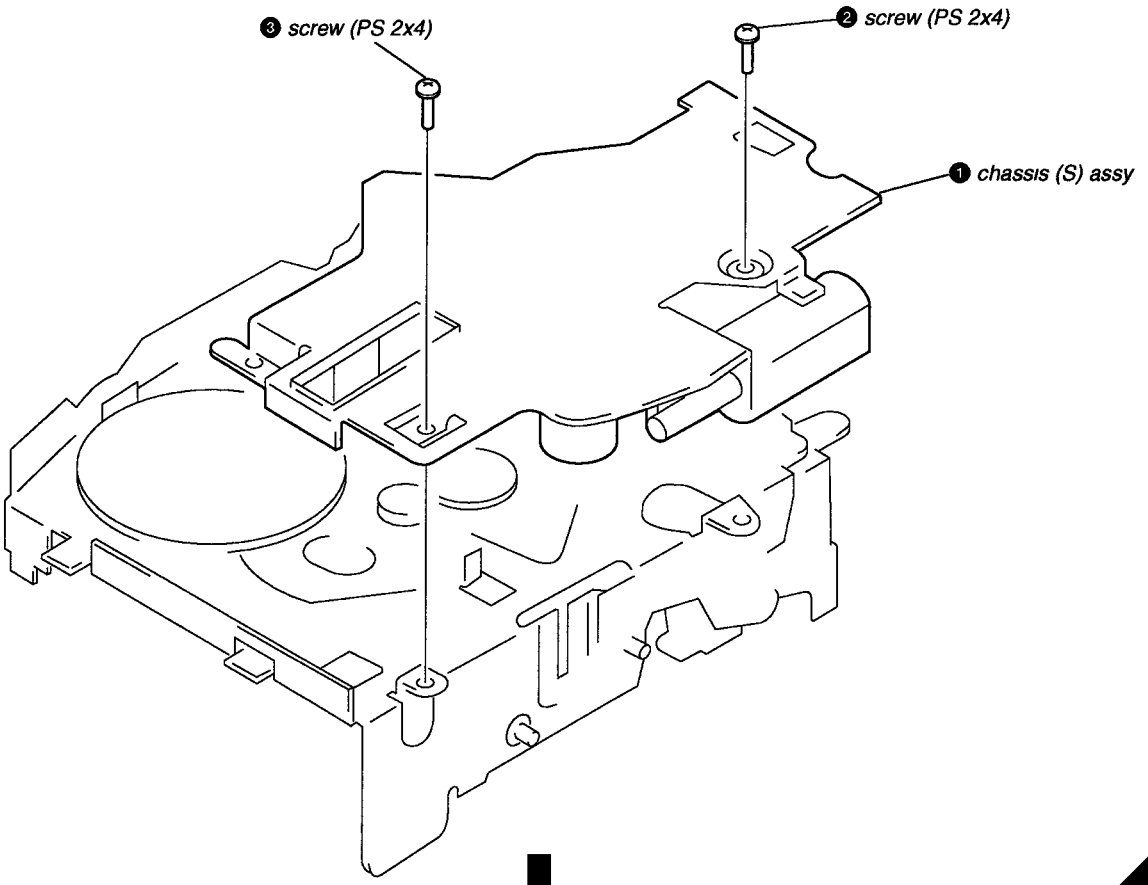
ALIGNMENT OF ROTARY SWITCH


❶ Align △ mark on the rotary switch the position shown in the figure.
hole
chassis (S) assy
❷ Align hole in the gear (LDG-D) with the position shown in the figure.

GEAR (LDG-E)

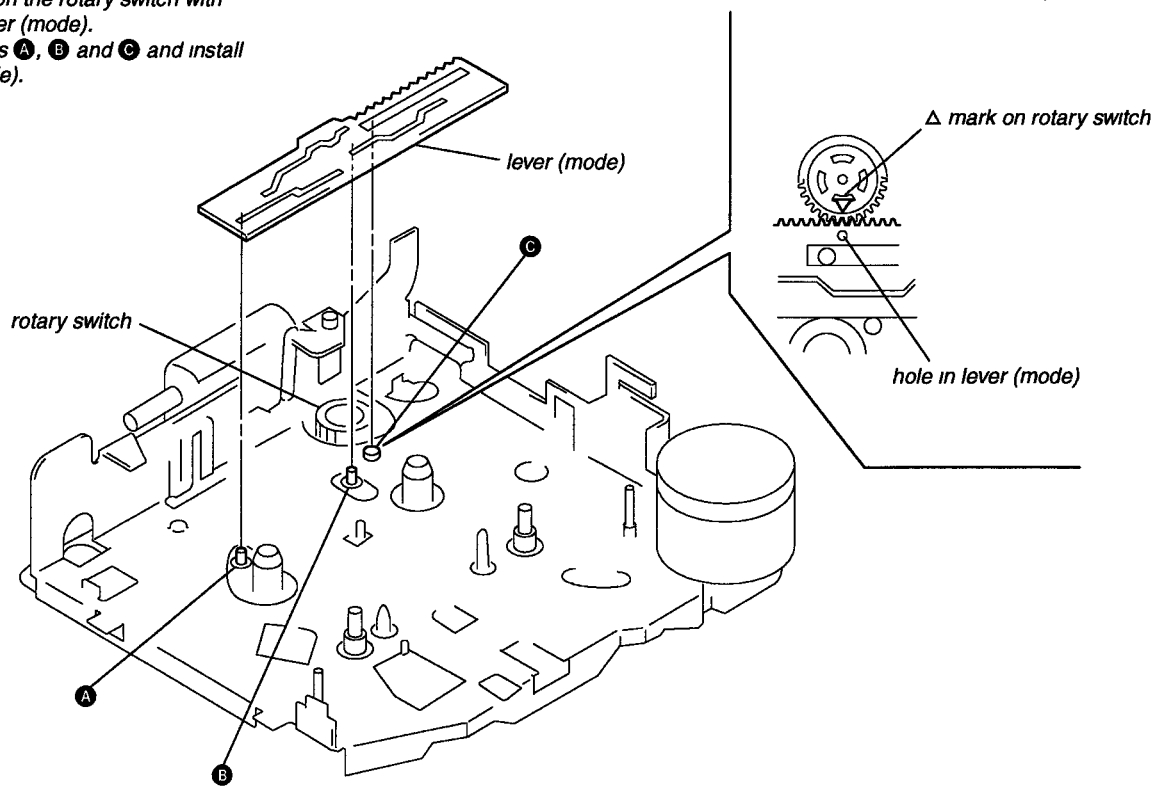


CHASSIS (S) ASSY

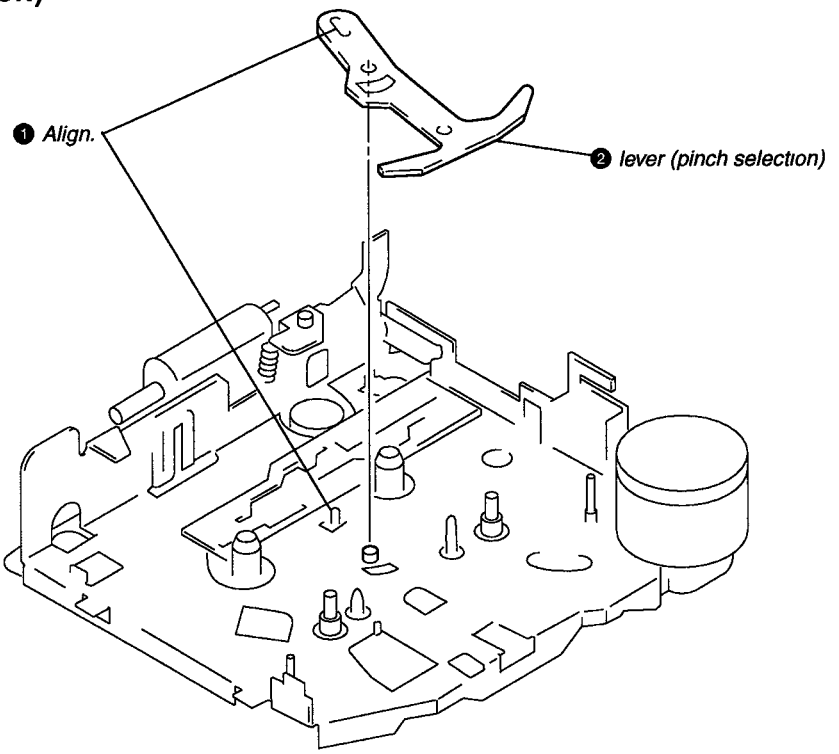


LEVER (MODE)

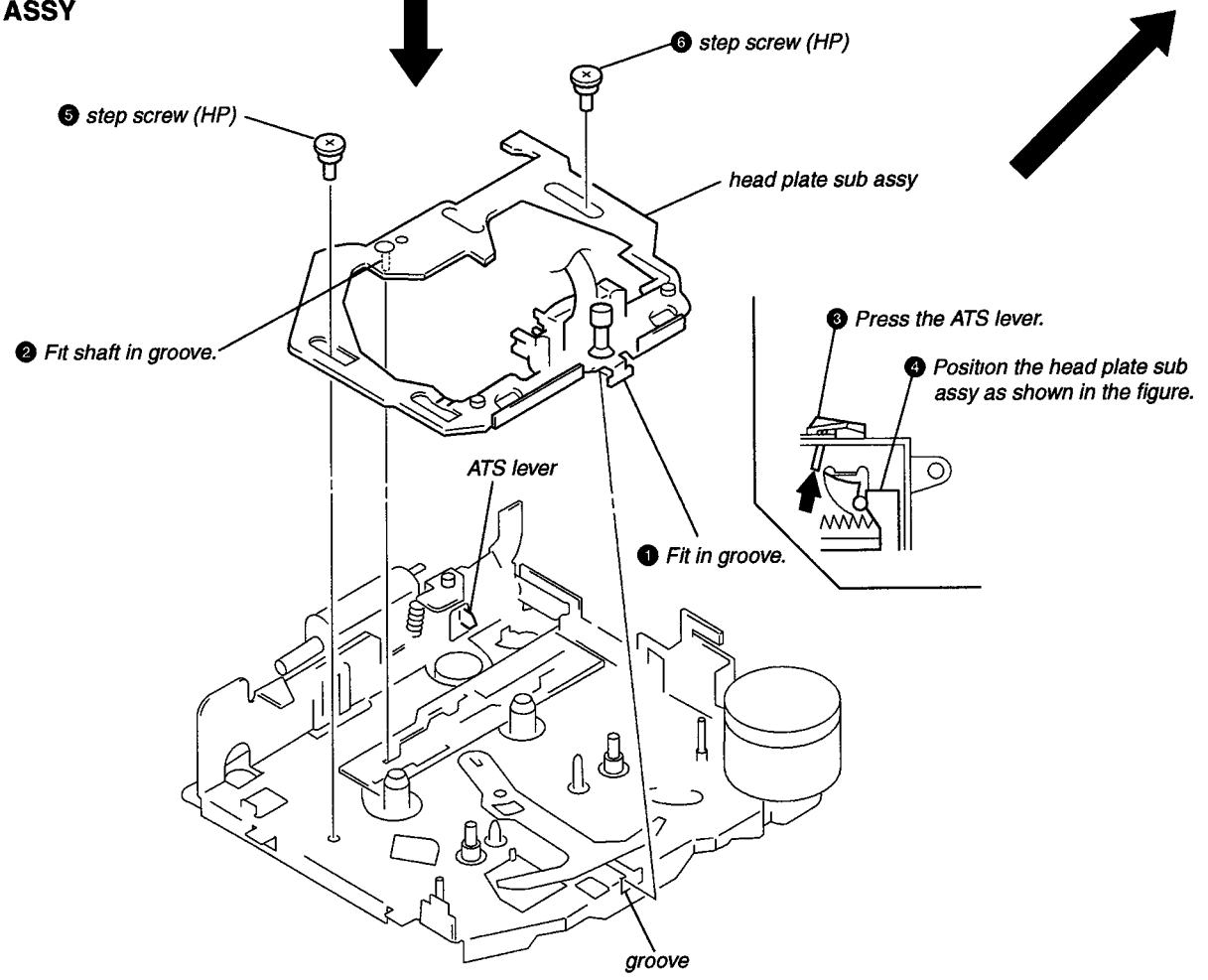
1. Align △ mark on the rotary switch with hole in the lever (mode).
2. Fit on positions Ⓐ, Ⓑ and Ⓒ and install the lever (mode).



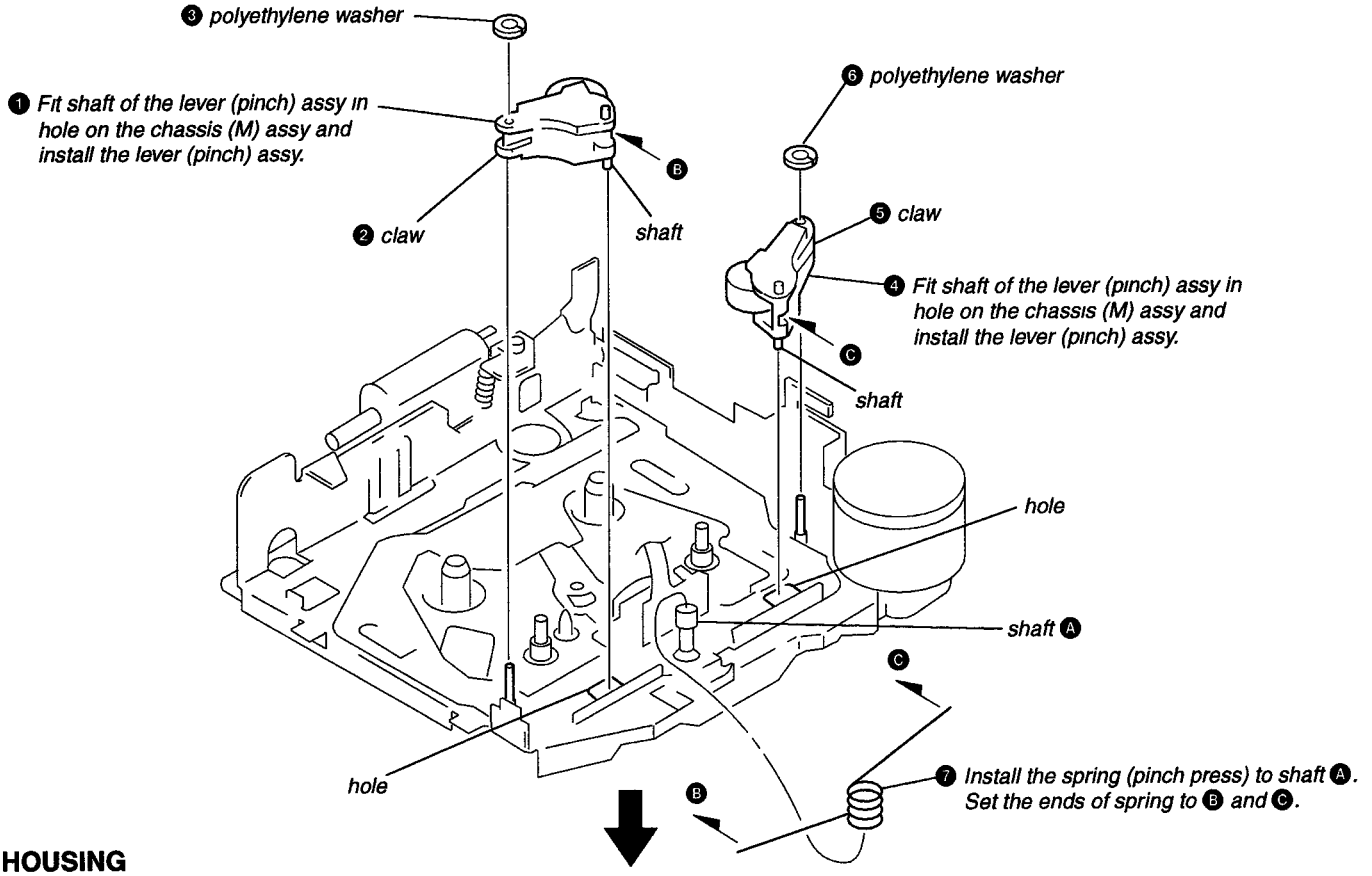
LEVER (PINCH SELECTION)



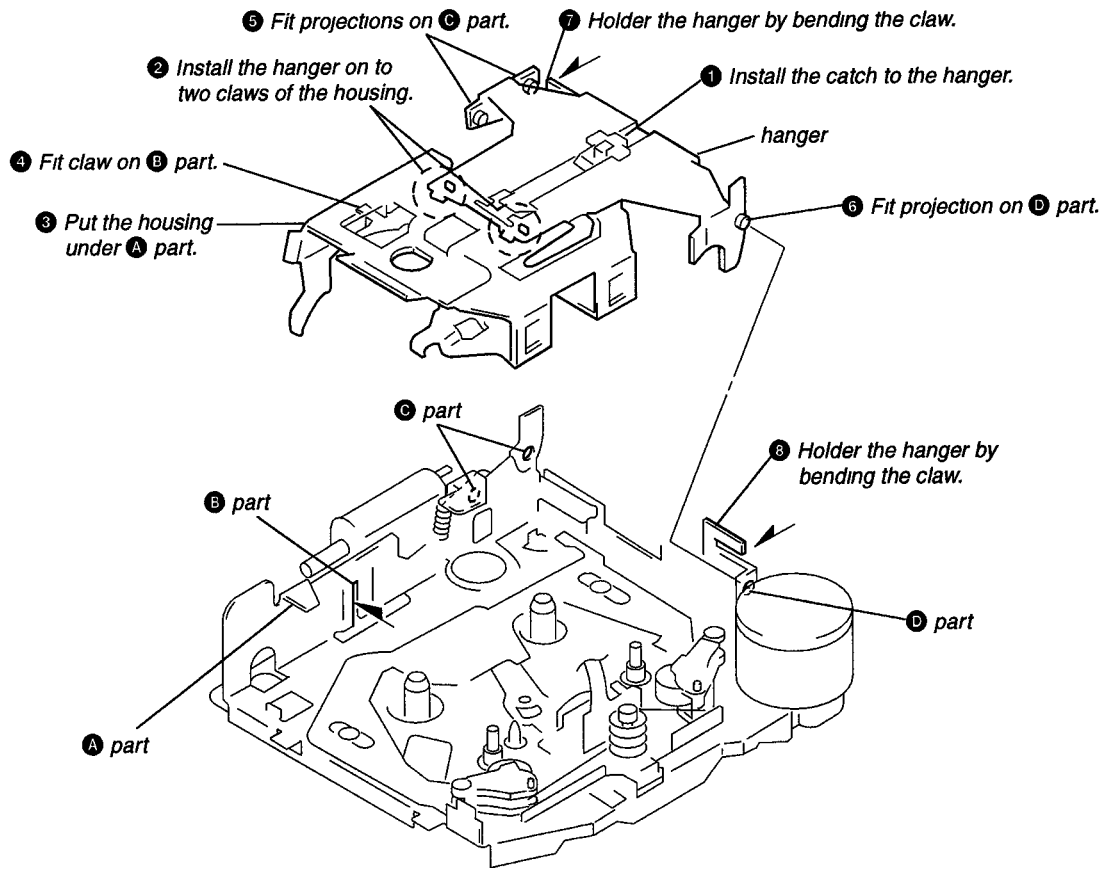
HEAD PLATE ASSY


❻ step screw (HP)
❺ step screw (HP)
head plate sub assy
❷ Fit shaft in groove.
❸ Press the ATS lever.
❹ Position the head plate sub assy as shown in the figure.
ATS lever
❶ Fit in groove.
groove

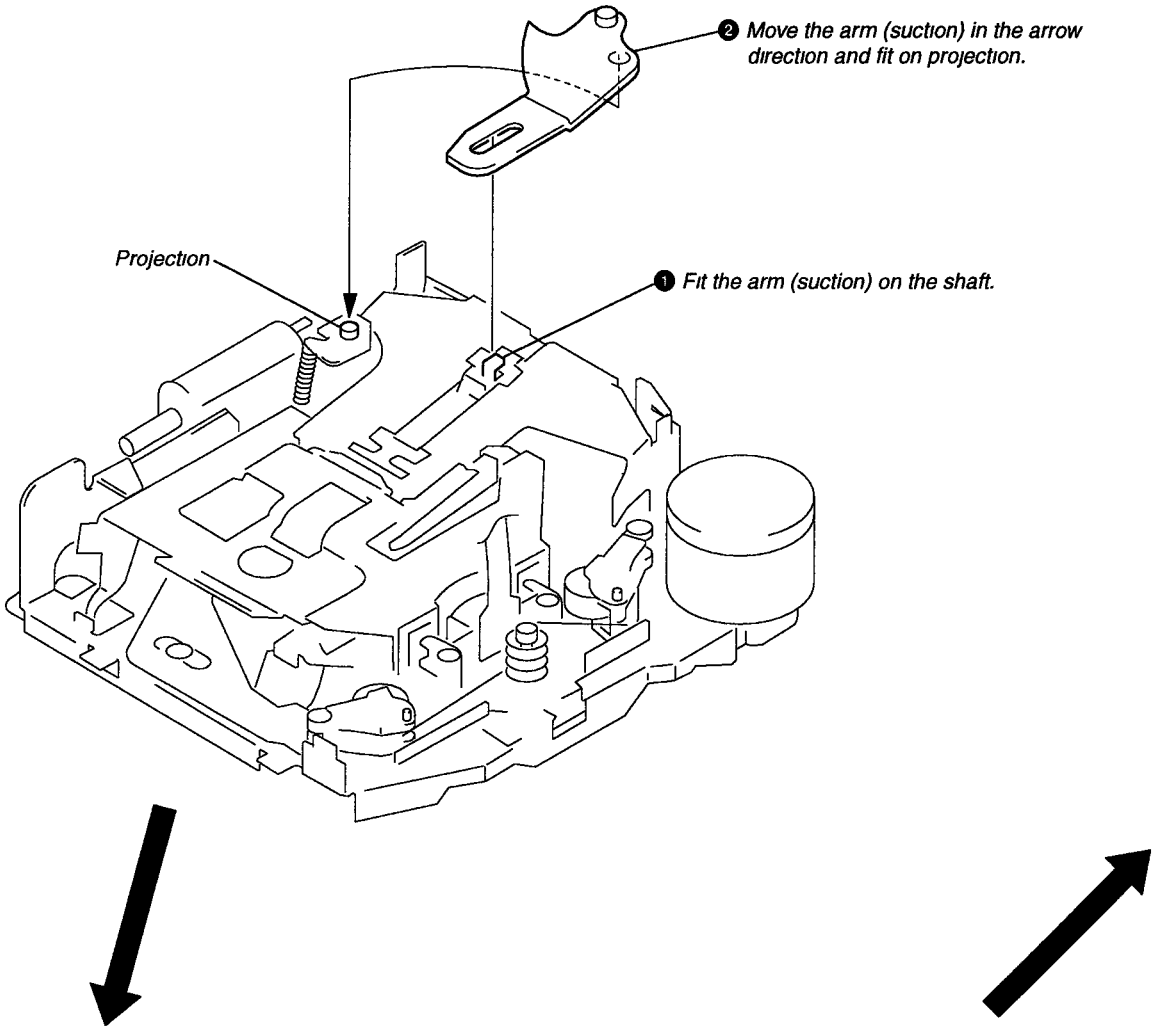
LEVER (PINCH) ASSY


❸ polyethylene washer
❶ Fit shaft of the lever (pinch) assy in hole on the chassis (M) assy and install the lever (pinch) assy.
❻ polyethylene washer
Ⓑ
❷ claw
shaft
❺ claw
❹ Fit shaft of the lever (pinch) assy in hole on the chassis (M) assy and install the lever (pinch) assy.
Ⓒ
shaft
hole
shaft Ⓐ
Ⓒ
hole
Ⓑ
❼ Install the spring (pinch press) to shaft Ⓐ. Set the ends of spring to Ⓑ and Ⓒ.

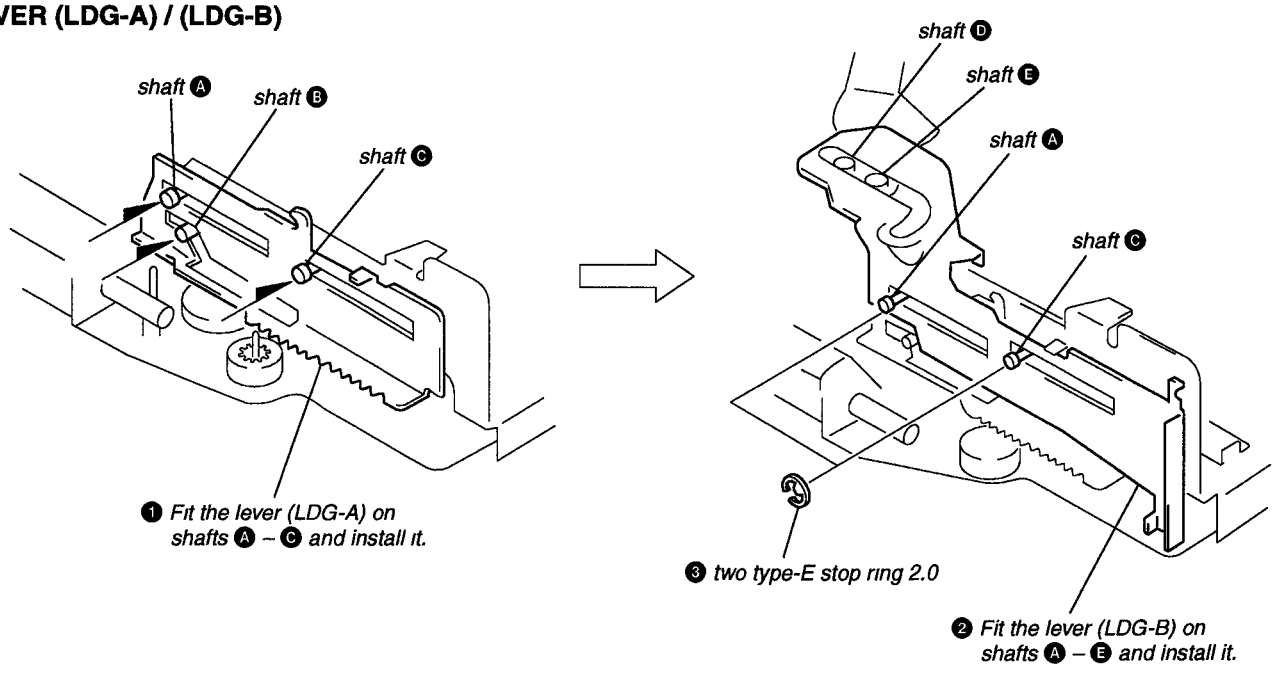
HOUSING


❺ Fit projections on Ⓒ part.
❼ Holder the hanger by bending the claw.
❷ Install the hanger on to two claws of the housing.
❶ Install the catch to the hanger.
hanger
❹ Fit claw on Ⓑ part.
❸ Put the housing under Ⓐ part.
❻ Fit projection on Ⓓ part.
Ⓒ part
❽ Holder the hanger by bending the claw.
Ⓑ part
Ⓓ part
Ⓐ part

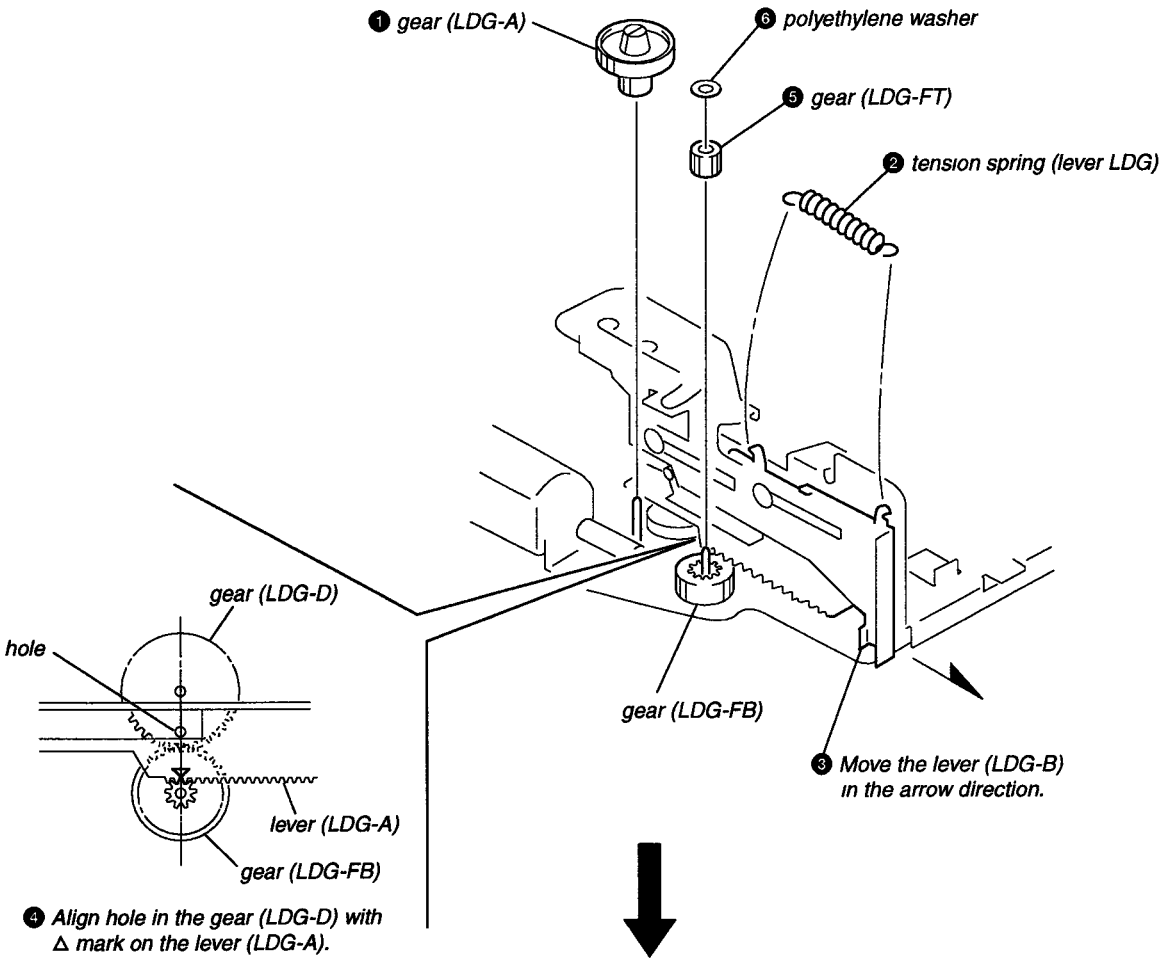
ARM (SUCTION)



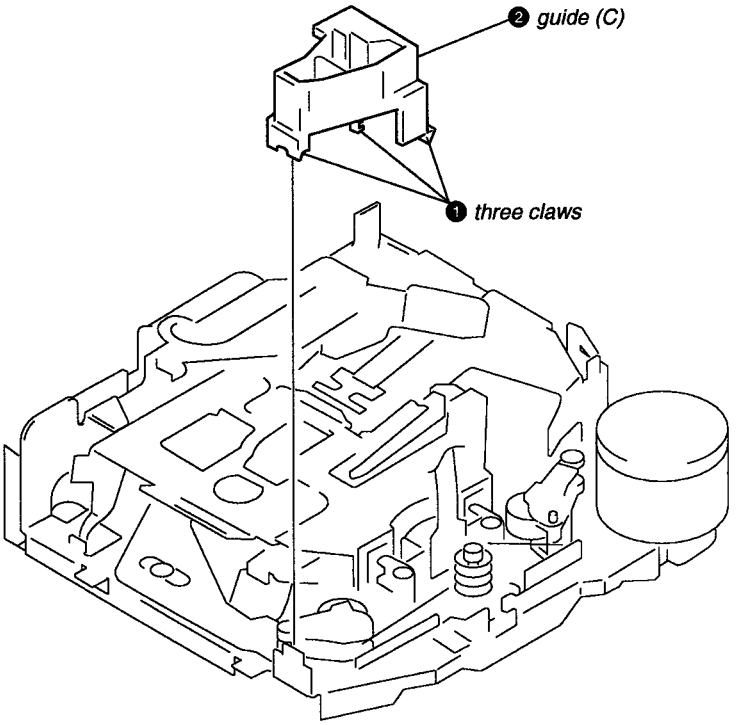
LEVER (LDG-A) / (LDG-B)


shaft Ⓐ
shaft Ⓑ
shaft Ⓒ
❶ Fit the lever (LDG-A) on shafts Ⓐ – Ⓒ and install it.
shaft Ⓓ
shaft Ⓔ
shaft Ⓐ
shaft Ⓒ
❸ two type-E stop ring 2.0
❷ Fit the lever (LDG-B) on shafts Ⓐ – Ⓔ and install it.

GEAR (LDG-FT)


❶ gear (LDG-A)
❻ polyethylene washer
❺ gear (LDG-FT)
❷ tension spring (lever LDG)
gear (LDG-D)
hole
lever (LDG-A)
gear (LDG-FB)
gear (LDG-FB)
❸ Move the lever (LDG-B) in the arrow direction.
❹ Align hole in the gear (LDG-D) with △ mark on the lever (LDG-A).

GUIDE (C)



SECTION 4
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Wipe the following components with an absorbent cotton cloth moistened with alcohol before adjustment :
   PB head　　Pinch roller
   Idler　　Rubber belt
   Capstan
2. Demagnetize the PB head using a head demagnetizer.
3. Be careful not to use a magnetized screwdriver.
4. After the adjustment is completed, lock the adjustment parts using screws.
5. Unless otherwise specified, make adjustments at the specified voltage (14.4 V)

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	35 – 65 g • cm (0.49 – 0.90 oz • inch)
FWD Back Tension		0.5 – 5.0 g • cm (0.01 – 0.07 oz • inch)
REV	CQ-102RC	35 – 65 g • cm (0.49 – 0.90 oz • inch)
REV Back Tension		0.5 – 5.0 g • cm (0.01 – 0.07 oz • inch)
FF, REW	CQ-201B	60 – 200 g • cm (0.83 – 2.78 oz • inch)

Tape Tension Measurement

Mode	Tension Meter	Meter Reading
FWD	CQ-403A	more than 60 g (more than 2.12 oz)
REV	CQ-403R	

SECTION 5
ELECTRICAL ADJUSTMENTS

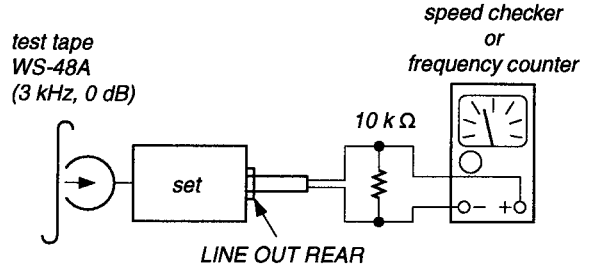
See the adjustment location from on page 25 for the adjustment.

DECK SECTION　　**0 dB = 0.775 V**

Tape Speed Adjustment

Procedure :

1. Put the set into the FWD PB mode.



Specification : Constant speed

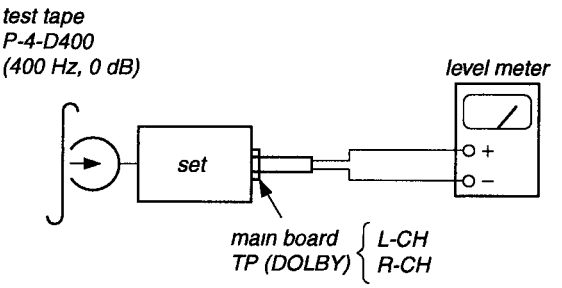
Speed checker	Frequency counter
– 1.5 to + 2 5 %	2,955 to 3,075 Hz

Adjustment Location : See page 25

DOLBY Level Adjustment

setting :

SHIFT button　　: ON (light up SET UP and PLAY MODE)
Preset [3] (PLAY MODE) button　　: NR off
SOUND (BAS) button　　: Center
SOUND (TRE) button　　: Center
SOUND (BAL) button　　: Center
SOUND (FAD) button　　: Center
SOUND (VOL) button　　: Maximum



Procedure :

1. Put the set into the FWD PB mode.
2. Adjust RV251 (L-CH) and RV261 (R-CH) so that level meter reading is – 6 ± 0.5 dB (0.37 to 0.41 V).

Adjustment Location : See page 25.

TUNER SECTION 0 dB = 1 μV

Cautions during repair
When the tuner unit is defective, replace it by a new one because its internal block is difficult to repair.

TEST MODE

This set have the test mode function. In the test mode, FM Auto Scan/Stop Level and AM (MW) Auto Scan/Stop Level adjustments can be performed easier than it in ordinary procedure.

<Set the Test Mode>
1. Set the "OFF" mode.
2. Push the preset [4] button.
3. Push the preset [5] button.
4. Press the preset [1] button for more than two seconds.
5. Then the display indicates all lights, the test mode is set

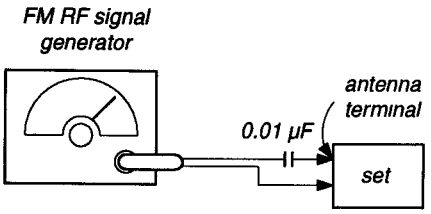
<Release the Test Mode>
1. Push the [OFF] button.

Note on Adjustment

The adjustments of tuner section, should be performed according to the following sequence.
1. FM Auto Scan/Stop Level Adjustment
2. FM Stereo Separation Adjustment
3. FM Noise Focus Adjustment (E model)
4. AM (MW) Auto Scan/Stop Level Adjustment

FM Auto Scan/Stop Level Adjustment

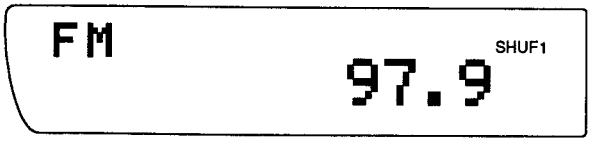
Setting :
SOURCE button : FM
FREQUENCY SELECT switch (E model) : FM 200k



Carrier frequency : 97.9 MHz
Output level : 22 dB (12.6 μV)
Mode : mono
Modulation : 1 kHz, 22.5 kHz deviation (30%)

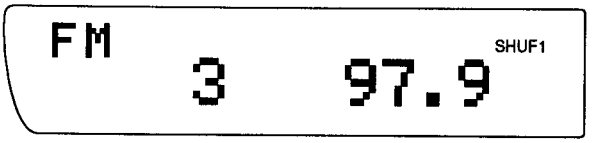
Procedure :
1. Set to the test mode.
2. Push the [SOURCE] button and set to FM.

Display



3. Push the preset [3] button.

Display



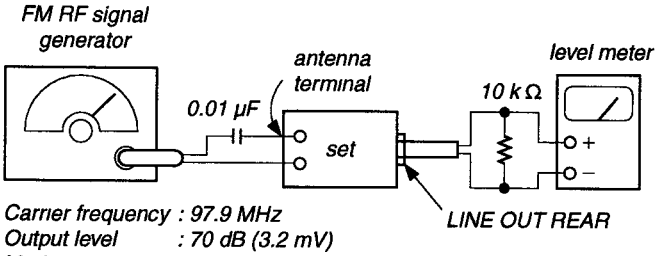
4. Adjust with the volume RV2 on TU11 so that the "FM" indication turns to "FM0" indication on the display window.
But, in case of already indicated "FM0", turn the RV2 so that put out light "0" indication and adjustment.

Display

Adjustment Location : See page 25.

FM Stereo Separation Adjustment

Setting :
SOURCE button : FM
FREQUENCY SELECT switch (E model) : FM 200k



Carrier frequency : 97.9 MHz
Output level : 70 dB (3.2 mV)
Mode : stereo
Modulation : main : 1 kHz, 33.75 kHz deviation (45%)
sub : 1 kHz, 33.75 kHz deviation (45%)
19 kHz pilot : 7.5 kHz deviation (10%)

Procedure :

FM stereo signal generator output channel	Level meter connection	Level meter reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV4 on TU11 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV4 on TU11 for minimum reading.

L-CH stereo separation : Ⓐ – Ⓑ
R-CH stereo separation : Ⓒ – Ⓓ
The separations of both channels should be equal.

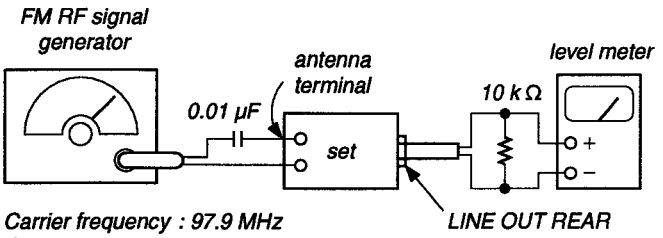
Specification : Separation more than 28 dB

Adjustment Location : See page 25.

FM Noise Focus Adjustment (E model)

Setting :

SOURCE button : FM
FREQUENCY SELECT switch : FM 200k



Carrier frequency : 97.9 MHz
Output level : 60 dB (1 mV)
Mode : mono
Modulation : 1 kHz, 75 kHz deviation (100%)

Procedure :

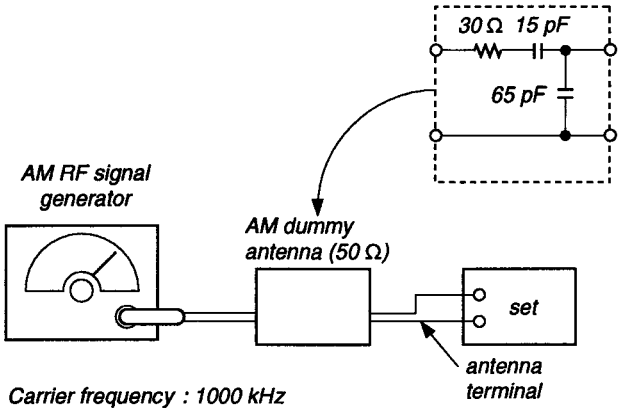
1. Tune the 97.9 MHz.
2. The then output level is supposing that 0 dB.
3. Adjust with the volume RV3 on TU11 so that the output level is – 32 ± 2 dB then signal generator input set to – 20 dB.

Adjustment Location : See page 25.

AM (MW) Auto Scan/Stop Level Adjustment

Setting :

SOURCE → MODE button : AM (US model)
: MW (E model)
FREQUENCY SELECT switch (E model) : MW 10k

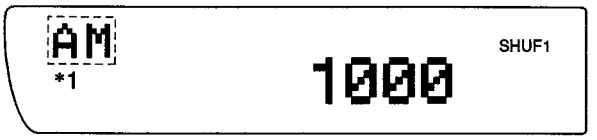


Carrier frequency : 1000 kHz
30% amplitude modulation by 1 kHz signal
output level : 33 dB (44.7 µV)

Procedure :

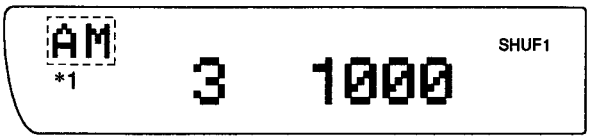
1. Set to the test mode. (See page 23.)
2. Push the [SOURCE] button.
3. Push the [MODE] button and set to AM (US model) or MW (E model).

Display



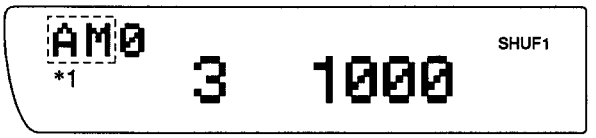
4. Push the preset [3] button.

Display



5. Adjust with the volume RV1 on TU11 so that the "AM" (US model) or "MW" (E model) indication turns to "AM0" (US model) or "MW0" (E model) indication on the display window. But, in case of already indicated "AM0" (US model) or "MW0" (E model), turn the RV1 so that put out light "0" indication and adjustment.

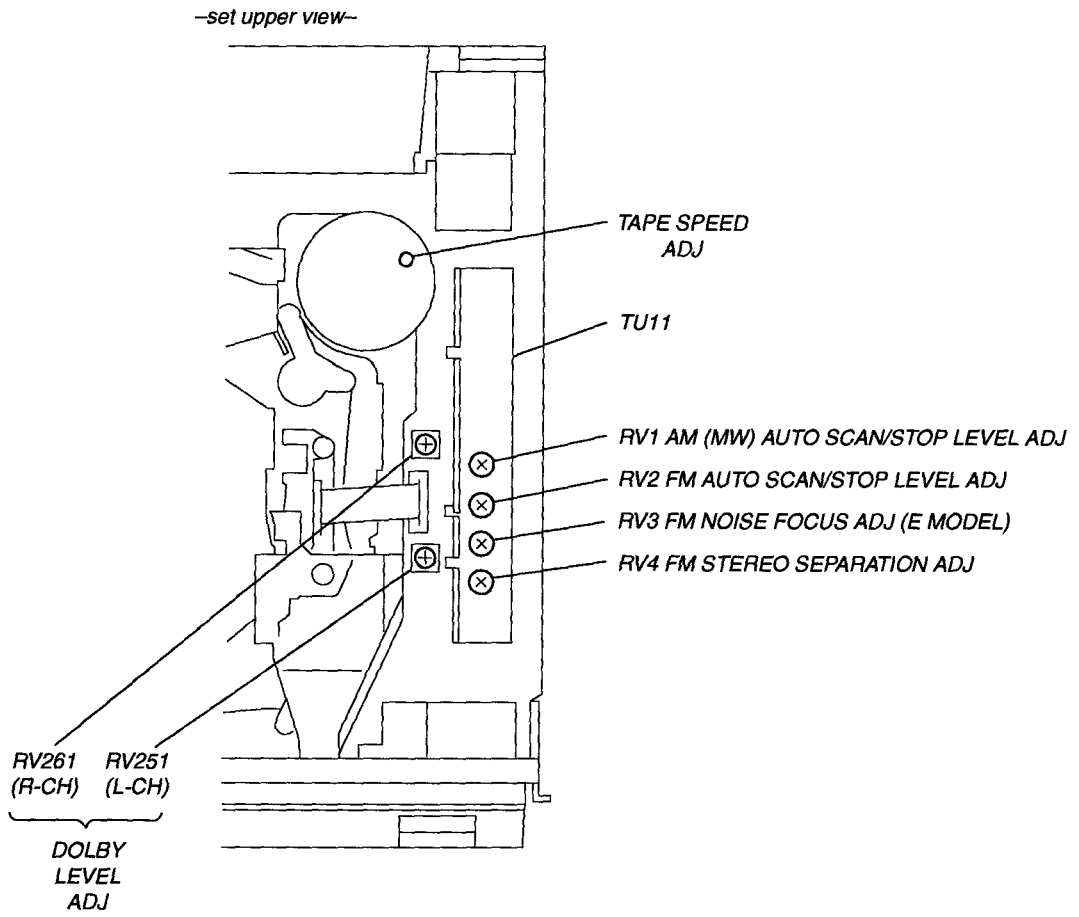
Display

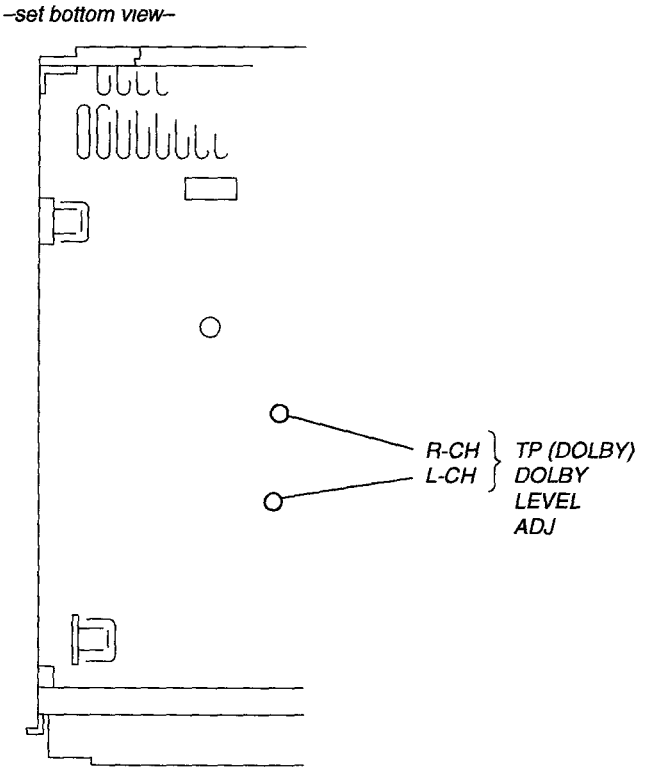


*1 : E model has the "MW" displayed.

Adjustment Location : See page 25.

Adjustment Location : tuner unit (TU11)





SECTION 6
DIAGRAMS

6-1. IC PIN DESCRIPTIONS

• IC101 µPD78013GC-761-AB8 (TUNER SYSTEM CONTROL)

Pin No.	Pin Name	I/O	Pin Description
1	TUNON	O	TUNER power control output
2	FM ON	O	FM power control output
3 – 8	NCO	—	Not used.
9	VSS	—	GND
10 – 23	NCO	—	Not used.
24	VSS	—	GND
25 – 32	NCO	—	Not used.
33	TUNMUTE	O	Tuner mute output
34	RAMBU	I	RAM reset detection input
35	$\overline{\text{RESET}}$	—	Microcomputer reset
36	NCO	—	Not used.
37	BU IN	I	Back-up power detection input
38	NCO	—	Not used.
39	$\overline{\text{BUSON}}$	I	BUS ON control input
40	VDD	—	Microcomputer power supply
41	OSCOUT	O	System clock connection output (8 MHz)
42	OSCIN	I	System clock connection input (8 MHz)
43	GND	—	GND
44	XT OUT	O	Sub clock connection output (Connect to GND.)
45	XT IN	I	Sub clock connection input (Connect to GND.)
46	AVSS	—	GND for A/D input.
47	VSM	I	FM/AM common signal meter A/D conversion input
48, 49	DSTSEL1, 0	I	Destination initial setting A/D conversion input
50	SD IN	I	Station detector detection input
51	$\overline{\text{ST MONO}}$	I/O	Used inconjunction with STEREO input/MONO output. (FM mode)
52 – 54	NIL	I	Connect to GND.
55	AVDD	—	Power supply for A/D input.
56	AVREF	—	Reference voltage for A/D input.
57	PLLSI	I	PLL serial data input
58	PLLSO	O	PLL serial data output
59	PLLCKO	O	PLL serial clock output
60	PLLCE	O	PLL serial chip enable output
61	$\overline{\text{LINKOFF}}$	O	LINK OFF output
62	UNISI	I	Serial data input
63	UNISO	O	Serial data output
64	UNICKI	I	Serial clock input

• IC501 µPD78058GC-463-3B9 (SYSTEM CONTROL)

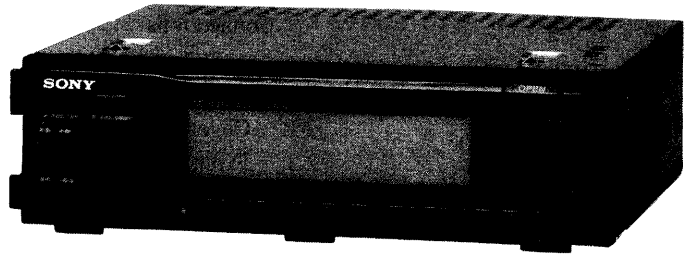
Pin No.	Pin Name	I/O	Pin Description
1	RC IN0	I	Rotary commander A/D conversion input 0
2	$\overline{\text{ILL.IN}}$	I	Illumination line detection input
3	NIL	I	Connect to GND.
4	AVSS	—	GND for A/D conversion.
5	$\overline{\text{LCDANG}}$	O	Output for LCD view angle adjustment.
6	NIL	I	Connect to GND.
7	AVREF	—	Reference voltage for D/A conversion.
8	RE IN0	I	Rotary encoder input 0
9	RE IN1	I	Rotary encoder input 1
10	SUB-CONT1	O	SUB.W OUT control output
11	SUB-CONT2	O	SUB.W OUT control output
12	LCDSO	O	LCD serial data output
13	LCDCKO	O	LCD serial clock output
14	LCDCE	O	LCD serial chip enable output
15	$\overline{\text{LCDINH}}$	O	LCD blank display control output
16	UNISI	I	Serial data input
17	UNISO	O	Serial data output
18	UNICKI	I	Serial clock input
19	UNICKO	O	Serial clock output
20	$\overline{\text{BUSON}}$	O	BUS ON control output
21	$\overline{\text{SYSRST}}$	O	System reset control output
22	AMPON	O	Power amplifier power control output
23	—	—	Not used
24	NCO	—	Not used.
25	PW ON	O	System power control output
26	ILLON	O	Illumination power control output
27	COLOR	I/O	Illumination color select control input/output
28	$\overline{\text{AMSON}}$	O	TAPE AMS control output
29	REL	I	Rotation detection input of reel table.
30	MTLIN	I	Auto METAL detection input
31, 32	POS3, 2	I	Position signal detection input
33	GND	—	GND of microcomputer.
34, 35	POS0, 1	I	Position signal detection input
36	LM LOD	O	Loading motor control output (Loading direction)
37	LM EJ	O	Loading motor control output (Eject direction)
38	N $\overline{\text{R}}$ OUT	O	Forward/Reverse detection output
39	MTLON	O	METAL control output
40	CM ON	O	Capstan motor control output
41	TAPON	O	TAPE power control output
42	PW SEL	I	Power select initial setting
43	RC IN1	I	Rotary commander input 1
44	$\overline{\text{TEST}}$	I	TEST mode setting input
45	$\overline{\text{EQSEL}}$	I	Equalizer select input
46	BEEP	O	Buzzer control output
47	MUTE	O	System mute control output
48	VOLCE	O	Electric volume serial chip enable output

Pin No.	Pin Name	I/O	Pin Description
49	SUBCE	O	Sub volume serial chip enable output
50	VOLCKO	O	Electric volume serial clock output
51	SUBCKO	O	Sub volume serial clock output
52	VOLSO	O	Electric volume serial data output
53	TAPMUT	O	Tape mute control output
54	DOLON	I/O	DOLBY control input/output
55	DOLBC	I/O	DOLBY B/C select control input/output
56	$\overline{\text{AMSIN}}$	I	Music with/without detection input in AMS.
57	DIMMER	I/O	Dimmer control input/output
58	$\overline{\text{AD ON}}$	O	Power control output for A/D conversion.
59	$\overline{\text{TIRIND}}$	O	TIR indicator control output (Not used.)
60	$\overline{\text{RESET}}$	I	Reset input
61	SIRCS	I	Remote commander input
62	BU IN	I	Back-up power detection input
63	$\overline{\text{DOORSW}}$	I	Door open/close switch
64	$\overline{\text{ACCIN}}$	I	Accessory power detection input
65	$\overline{\text{NOSESW}}$	I	Detachable panel detection
66	$\overline{\text{TELMUT}}$	I	Telephone mute detection input
67	KEYACK	I	Key input acknowledge
68	VDD	—	Power supply for microcomputer.
69	X OUT	O	Main ceramic oscillator output pin (5 MHz)
70	X IN	I	Main ceramic oscillator input pin (5 MHz)
71	GND	—	GND for microcomputer.
72	XT OUT	O	Sub crystal oscillator output pin (32.768 kHz)
73	XT IN	I	Sub crystal oscillator input pin (32.768 kHz)
74	AVDD	—	Power supply for A/D conversion.
75	AVREF	—	Reference power supply for A/D conversion.
76, 77	KEYIN0, 1	I	Key input 0, 1
78, 79	KEYSEL0, 1	I	Key function select setting input
80	NIL	I	Connect to GND.

XR-C500

SERVICE MANUAL

US Model
Canadian Model
E Model



Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MG-52B-135

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS (US, Canadian model)

POWER OUTPUT AND TOTAL HARMONIC DISTORTION
13 watts per channel minimum continuous average power into 4 ohms, 4 channels driven from 20 Hz to 20 kHz with no more than 1 % total harmonic distortion.

Other specifications

Cassette player section

Tape track	4-track 2-channel stereo
Wow and flutter	0.08 % (WRMS)
Frequency response	30 – 20,000 Hz
Signal-to-noise ratio	

Cassette type	Dolby B NR	Dolby NR off
TYPE II, IV	67 dB	61 dB
TYPE I	64 dB	58 dB

Tuner section

FM

Tuning range	US, Canadian model : 87.5—107.9MHz E model : FM tuning interval : 50kHz/200kHz switchable 87.5—108.0MHz (at 50kHz step) 87.5—107.9MHz (at 200kHz step)
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Usable sensitivity	8 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	0.5 % (stereo), 0.3 % (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz
Capture ratio	2 dB

AM (US, Canadian model)

Tuning range	530 – 1,710 kHz
Antenna terminal	External antenna connector
Intermediate frequency	10.71 MHz/450 kHz
Sensitivity	30 µV

MW (E model)

Tuning range	MW tuning interval : 9kHz/10kHz switchable 531—1,602kHz (at 9kHz step) 530—1,710kHz (at 10kHz step)
Aerial terminal	External aerial connector
Intermediate frequency	10.71MHz/450kHz
Sensitivity	30µV

—continued on next page—

使用時には別冊資料も参照のこと
Refer to the additional documents

FM/AM CASSETTE CAR STEREO
US, Canadian model

FM/MW/SW CASSETTE CAR STEREO
E model

SONY®

SW1, 2 (E model)

Tuning range	SW1 : 2,940—7,735kHz SW2 : 9,500—18,135kHz (except for 10,140—11,575 kHz)
Aerial terminal	External aerial connector
Intermediate frequency	10.71MHz/450kHz
Sensitivity	50μV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	35 W × 4 (at 4 ohms)

General

Outputs	Line outputs (2) Power antenna relay control lead Power amplifier control lead
Tone controls	Bass ±8 dB at 100 Hz Treble ±8 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 188 × 58 × 177 mm (7 1/2 × 2 3/8 × 7 in.) (w/h/d)
Mounting dimension	Approx. 182 × 53 × 162 mm (7 1/4 × 2 1/8 × 6 1/2 in.) (w/h/d)
Mass	Approx. 1.3 kg (2 lb. 14 oz.)
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1) Rotary remote RM-X2S Wireless remote RM-X42 (E model)

Design and specifications are subject to change without notice.

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.

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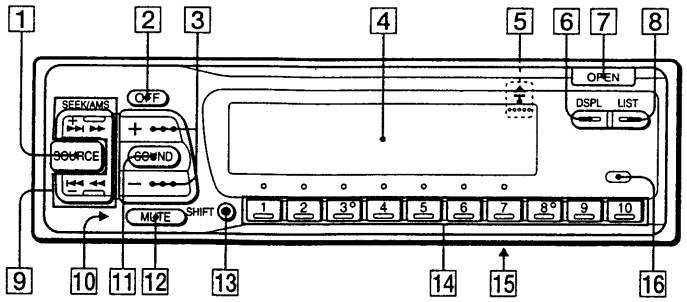
Location of controls



Refer to the pages for details.

1 SOURCE (source select) button 6, 7, 8, 11, 13

2 OFF button 4, 6

3 ⊕ ⊖ (volume/bass/treble/balance/fader control) button 8, 9, 10,13

4 Display window

5 ⏏ (eject) button (located on the front side of the unit hidden by the front panel) 6

6 DSPL button (display mode change) button 6, 8, 9, 11, 12, 13, 14

7 OPEN button 4, 6, 15

8 LIST button
Disc Memo 13
List-up 9, 13
Station Memo 8

9 SEEK/AMS (seek/Automatic Music Sensor/manual search) button 6, 7, 8, 12, 14

10 Reset button (located on the front side of the unit hidden by the front panel) 4

11 SOUND button 10

12 MUTE button 10

13 SHIFT button
BTM 7
SET UP 5, 11
PLAY MODE 7, 8, 12, 14

14 During radio reception:
Preset number buttons 7, 8
During CD/MD reception:
Direct disc selection button 12

15 POWER SELECT switch (located on the bottom of the unit)
See "POWER SELECT switch" in the Installation/Connections manual.

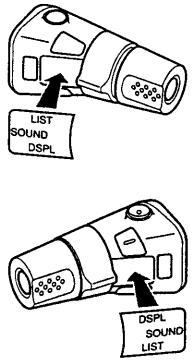
16 Receptor for remote commander

EN

Additional Information

Preparing the rotary remote

When you mount the rotary remote, attach the label in the illustration below.

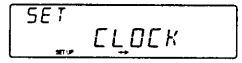


Setting the clock

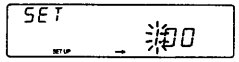
The clock has a 12-hour digital indication.

Example: Set the clock to 10:08

1 Press (SHIFT), then press ② (SET UP).



❶ **Press ④ (→).**

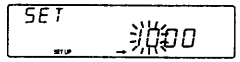


The hour digit flashes.

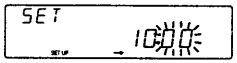
❷ **Set the hour.**

to go forward

to go back



❸ **Press ④ (→).**

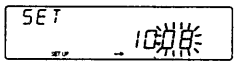


The minute digits flash.

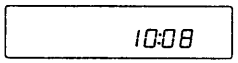
❹ **Set the minute.**

to go forward

to go back



2 Press (SHIFT).



The clock starts.

Note

If the POWER SELECT switch on the bottom of the unit is set to the ❽ position, turn the power on first, then set the clock.

EN

Getting Started

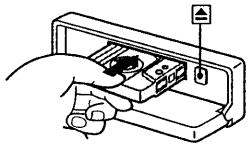
SECTION 1
GENERAL

This section is extracted from US, Canadian model's instruction manual.

Cassette Player

Listening to the tape

1 Press (OPEN) and insert the cassette.

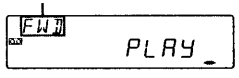


Playback starts automatically.

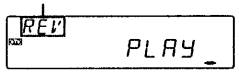
2 Close the front panel.

If the cassette is already inserted, press (SOURCE) until "FWD" or "REV" appears to start playback.

The side facing up is being played.



The side facing down is being played.



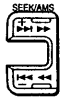
Tips

- *To change the tape transport direction, press (7) (◀II▶).*
- *"METAL" appears in the display when you insert the metal or CrO_2 tape (Auto Metal function).*

To	Press
Stop playback	(OFF)
Eject the cassette	(OPEN) then ⏏

Fast-winding the tape

During playback, press either side of (SEEK/AMS) for one second.



Fast-forward

Rewind

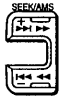
To start playback during fast-forwarding or rewinding, press (7) (◀II▶).

Locating the beginning of the tracks

— Automatic Music Sensor (AMS)

You can skip up to nine tracks at one time.

During playback, press either side of (SEEK/AMS) momentarily.



To locate the succeeding tracks

To locate the previous tracks

Note

The AMS function may not work when :

- *the blanks between tracks are shorter than four seconds.*
- *there are noises.*
- *there are long sections of low volume or quiet sections.*

Changing the displayed items

Each time you press (DSPL), the item changes as follows:

→ Tape playback → Clock → Frequency* →

** While the ATA function is activated.*

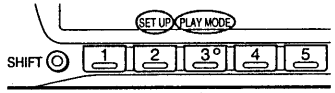
Playing the tape in various modes

You can play the tape in various modes:

- INTRO (Intro Scan) lets you play the first 10 seconds of all the tracks.
- REPEAT (Repeat Play) repeats the current track.
- NR(Dolby NR) lets you select the Dolby NR B system.
- ATA (Automatic Tuner Activation) turns on the tuner automatically while fast-winding the tape.
- BL.SKP (Blank Skip) skips blanks longer than eight seconds.

1 Press (SHIFT).

Every time you press (SHIFT), only the items you can select light up.

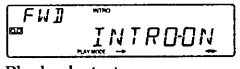


2 Press (3) (PLAY MODE), repeatedly until the desired play mode appears.

Each time you press (3), the item changes as follows:

INTRO → REPEAT → NR → ATA → BL. SKP

3 Press (4) (→) to select "ON."



Playback starts.

To go back to the normal playback mode, select "OFF" in step 3 above.

Radio

Memorizing stations automatically

— Best Tuning Memory (BTM)

The unit selects the stations with the strongest signals and memorizes them in the order of their frequencies. You can store up to 10 stations on each band (FM 1, FM 2 and AM).

Caution

When tuning in the station while driving, use Best Tuning Memory to prevent accidents.

1 Press (SOURCE) repeatedly to select the desired band (FM 1, FM 2 or AM).

2 Press (SHIFT), then press (6) (BTM).

The unit stores stations in the order of their frequencies on the number buttons.
A beep sounds and the setting is stored.

Notes

- *The unit does not store stations with weak signals. If only a few stations are received, some number buttons remain empty.*
- *When a preset number is indicated in the display, the unit starts storing stations from the one currently displayed.*

Memorizing only the desired stations

You can store up to 10 stations on each band (20 for FM 1 and FM 2, 10 for AM) in the order of your choice.

1 Press (SOURCE) repeatedly to select the desired band.

2 Press either side of (SEEK/AMS) to tune in the station that you want to store on the number button.

3 Keep the desired number button ((1) to (10)) pressed for two seconds until you hear a beep tone.

The number button indication appears in the display.

Note

If you try to store another station on the same number button, the previously stored station will be erased.

Receiving the memorized stations

1 Press (SOURCE) repeatedly to select the desired band.

2 Press the number button (1 to 10) momentarily, where the desired station is stored.

If you cannot tune in a preset station

Press either side of (SEEK/AMS) momentarily to search for the station (automatic tuning).
Scanning stops when the unit receives a station. Press either side of (SEEK/AMS) repeatedly until the desired station is received.

Note
If the automatic tuning stops too frequently, press (SHIFT), then press (3) (PLAY MODE) repeatedly until "LOCAL" (local seek mode) is displayed. Then press (4) (→) to select "ON."
Only the stations with relatively strong signals will be tuned in.

Tip
If you know the frequency of the station you want to listen to, press and hold either side of (SEEK/AMS) for two second, until the desired frequency appears (manual tuning).

If FM stereo reception is poor — Monaural Mode

1 Press (SHIFT), then press (3) (PLAY MODE) repeatedly until "MONO" appears.

2 Press (4) (→) repeatedly until "MONO-ON" appears.
The sound improves, but becomes monaural ("STEREO" disappears).

To go back to the normal mode, select "MONO-OFF" in step 2 above.

Changing the displayed items

Each time you press (DSPL), the item changes as follows:

Frequency ⟷ Clock

Storing the station names

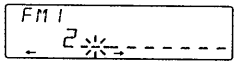
—Station Memo

You can assign a name to each radio station and store it in memory. The name of the station currently tuned in appears in the display. You can store up to eight characters for a station.

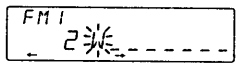
Storing the station names

1 Tune in a station whose name you want to store.

2 Press (LIST) for two seconds.

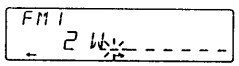


3 Enter the characters.
❶ Press (+) to select the desired characters.
(A → B → C → ··· Z → 0 → 1 → 2 → ··· 9 → + → − → * → / → \ → > → < → . → _)



If you press (−), the characters appear in the reverse order.
If you want to put a blank space between characters, select "_" (under-bar).

❷ Press (4) (→) after locating the desired character.
The flashing cursor moves to the next space.



If you press (1) (←), the flashing cursor moves to the left.

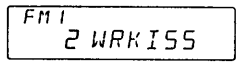
❸ Repeat steps ❶ and ❷ to enter the entire name.

3 To return to the normal radio reception, press (LIST) for two seconds.

Tip
To erase/correct a name, enter "_" (under-bar) for each character.

Displaying the station name

Press (DSPL) during radio reception.



Each time you press (DSPL), the item changes as follows:

→ Station name* → Frequency → Clock

** If the station name is not stored, "NO NAME" appears in the display for one second.*

Erasing the station name

1 Tune in any station and press (LIST) for two seconds.

2 Press (DSPL) for two seconds.

3 Press (+) or (−) to select the name that you want to erase.

4 Press (5) (ENTER) for two seconds.
The name is erased.
Repeat steps 3 and 4 if you want to erase other names.

5 Press (LIST) for two seconds.
The unit returns to the normal radio reception mode.

Locating a station by name — List-up

1 Press (LIST) momentarily.
The name assigned to the station currently playing appears in the display.

2 Press (LIST) repeatedly until you find the desired station.

3 Press (5) (ENTER) to tune in the desired station.

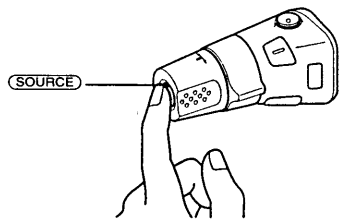
Note
Once the station name or frequency has been displayed for five seconds, the display goes back to its normal mode.
To turn off the display, press (DSPL).

Other Functions

Using the rotary remote

The rotary remote works by pressing buttons and/or rotating controls.
You can control the optional CD or MD changer with the rotary remote.

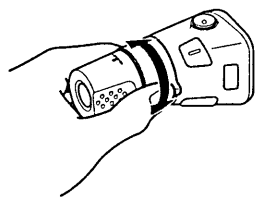
By pressing the button (the SOURCE button)



Each time you press (SOURCE), the source changes as follows:
FM1 → FM2 → AM → CD1 → CD2 → MD1 → MD2

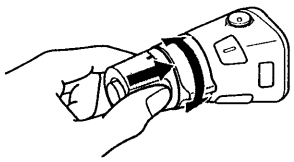
Tip
When the POWER SELECT switch is set to position ❸, you can turn on this unit by pressing (SOURCE) on the rotary remote.

By rotating the control (the SEEK/AMS control)



Rotate the control momentarily and release it to:
- Locate a specific track on a tape or a disc. Rotate and hold the control to locate the specific point in a track, then release it to start playback.
- Tune in the stations automatically. Rotate and hold the control to tune in the specific station.

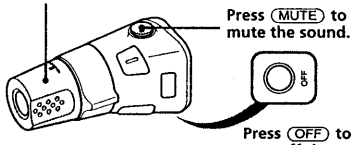
By rotating the control while pushing (the PRESET/DISC control)



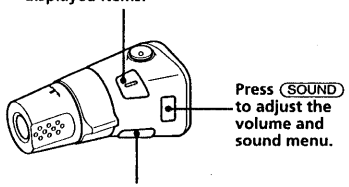
Rotate the control while pushing it to:
- Receive the stations memorized on the preset buttons.
- Change the disc.

Other operations

Rotate the VOL control to adjust the volume.

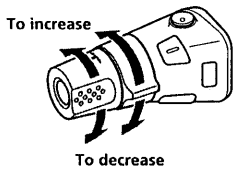


Press (DSPL) to change the displayed items.

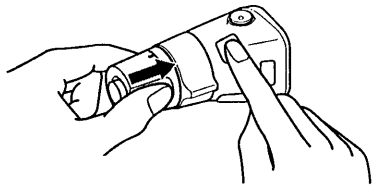


Changing the operative direction

The operative direction of controls is factory preset as in the illustration below.



If you need to mount the rotary remote on the right of the steering column, you can reverse the operative direction of the controls.



Press (DSPL) two seconds while pushing the VOL control.

Tip
You can control the operative direction of controls with the unit.

Adjusting the sound characteristics

You can adjust the bass, treble, balance and fader.
Each source can store the bass and treble level respectively.

1 Select the item you want to adjust by pressing (SOUND) repeatedly.

VOL (volume) → BAS (bass) → TRE (treble) → BAL (balance) → FAD (fader)

2 Adjust the selected item by pressing + or −.
Adjust within three seconds after selecting. (After three seconds, the buttons work as volume control buttons.)

Muting the sound

Press (MUTE).
"MUTE-ON" flashes.

To restore the previous volume level, press (MUTE) again.

Tip
The unit decreases the volume automatically when a telephone call comes in (Telephone-mute function).

Changing the sound and display settings

You can set:
- BEEP to turn on or off the beeps.
- DIM (dimmer) to change the brightness of the display.
- D. INFO (dual information) to display the clock and the play mode at the same time (ON) or to display the information alternately (OFF).
- LOUD (Loudness) to enjoy bass and treble even at low volume. Bass and treble will be reinforced.
- RM (Rotary Remote) to change the operative direction of the controls of the rotary remote.
  — Select "NORM" to use the rotary remote as the factory preset position.
  — Select "REV" when you mount the rotary remote on the right of the steering column.

1 Press (SHIFT), then press (2) (SET UP).

2 Press (2) (SET UP) repeatedly until the desired setting mode appears.

Each time you press (2) (SET UP), the item changes as follows:
CLOCK → BEEP → DIM → D. INFO → LOUD → RM

3 Press (4) (→) to select the desired setting (for example: ON or OFF).

4 Press (SHIFT).
When the mode setting is complete, the normal playback mode appears.

With Optional Equipment

CD/MD Changer

You can control up to 10 CD changers and MD changers with this unit.

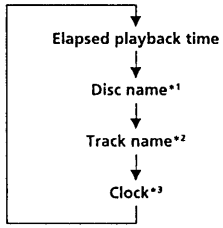
Playing a CD or MD

Press (SOURCE) until the desired changer appears.
CD/MD playback starts.

When a CD or MD changer is connected, all the tracks play from the beginning.

Changing the displayed items

Each time you press (DSPL) during CD/MD playback, the item changes as follows:



*1 If there is no prerecorded name for an CD or MD, "NO NAME" appears in the display.
*2 If the track name is not prerecorded, "NO NAME" appears in the display.
*3 If the dual information is on, clock does not appear in the display.

Tip
If the name of the MD is too long, you can scroll it across the display by pressing (SHIFT), then (1) (←).

Automatically scrolling a disc name — Auto Scroll

The Auto Scroll function automatically scrolls the disc or track name of the MD when you press (DSPL) and the name length exceeds 8 characters.

1 Press (SHIFT), then press (2) (SET UP) repeatedly until "A. SCRL." appears.

2 Press (4) (→) to select "A. SCRL-ON."

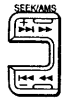
To cancel Auto Scroll, select "A. SCRL-OFF" in step 2 above.

Displaying the recording date of the currently selected MD

Press (DSPL) for two seconds during MD playback.
The recording date of the track is displayed for about three seconds.

Locating a specific track
— Automatic Music Sensor (AMS)

During playback, press either side of (SEEK/AMS) once for each track you want to skip.

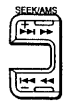


To locate succeeding tracks

To locate previous tracks

Locating a specific point in a track
— Manual Search

During playback, press and hold either side of (SEEK/AMS). Release the button when you have found the desired point.



To search forward

To search backward

Locating a disc by disc number
— Direct Disc Selection

Press the number button that corresponds with the desired disc number.
The desired disc in the currently selected changer begins playback.

Scanning the tracks
— Intro Scan

You can play the first 10 seconds of all the tracks on the currently selected disc.

1 During playback, press (SHIFT), then press (3) (PLAY MODE) repeatedly until "INTRO" appears.

2 Press (4) (→) repeatedly until "INTRO-ON."
Intro Scan starts.

To go back to the normal playback mode, select "INTRO-OFF" in step 2 above.

Playing tracks repeatedly
— Repeat Play

You can select:
- REP-1 to repeat a track.
- REP-2 to repeat a disc.
- REP-3 to repeat all the discs in the current changer.

1 During playback, press (SHIFT), then press (3) (PLAY MODE) repeatedly until "REP" appears.

2 Press (4) (→) repeatedly until the desired setting appears.

→ REP-1 → REP-2 → REP-3 → REP-OFF

Repeat play starts.

To go back to the normal playback mode, select "REP-OFF" in step 2 above.

Playing tracks in random order — Shuffle Play

You can select:
- SHUF-1 to play the tracks on the current disc in a random order.
- SHUF-2 to play the tracks in the current changer in a random order.
- SHUF-3 to play all the tracks in a random order.

1 During playback, press (SHIFT), then press (3) (PLAY MODE) repeatedly until "SHUF" appears.

2 Press (4) (→) repeatedly until the desired setting appears.

→ SHUF-1 → SHUF-2 → SHUF-3 → SHUF-OFF

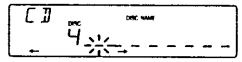
Shuffle play starts.

To go back to the normal playback mode, select "SHUF-OFF" in step 2 above.

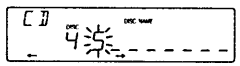
Labeling a CD
— Disc Memo
(CD changer with custom file function)

You can label each disc with a personalized name. You can enter up to eight characters for a disc. If you label a CD, you can locate a disc by name and select the specific tracks for playback (page 14).

1 Play the CD and press (LIST) for two seconds.

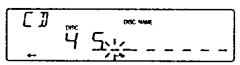


2 Enter the characters.
❶ Press (+) to select the desired characters.
(A → B → C → ··· Z → 0 → 1 → 2 → ··· 9 → + → − → * → / → \ → > → < → . → _)



If you press (−), the characters appear in the reverse order.
If you want to put a blank space between characters, select "_" (underbar).

❷ Press (4) (→) after locating the desired character.
The flashing cursor moves to the next space.



If you press (1) (←), the flashing cursor moves to the left.

❸ Repeat steps ❶ and ❷ to enter the entire name.

3 To return to the normal CD playback mode, press (LIST) for two seconds.

Tip
To erase/correct a name, enter "_" (under-bar) for each character.

Displaying the disc memo

Press (DSPL) during CD playback.

Each time you press (DSPL) during CD playback, the item changes as follows:

→ Elapsed playback time → Disc name → Clock →

Erasing the disc memo

1 Press (SOURCE) to select the CD changer.

2 Press (LIST) for two seconds.

3 Press (DSPL) for two seconds.

4 Press (+) or (−) to select the name that you want to erase.

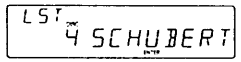
5 Press (5) (ENTER) for two seconds.
The name is erased.
Repeat steps 3 and 4 if you want to erase other names.

6 Press (LIST) for two seconds.
The unit returns to the normal CD playback mode.

Locating a disc by name
— List-up (CD changer with custom file function or MD changer)

You can use this function for the discs that have been assigned a custom name. For more information on disc names, refer to "labeling a CD."

1 Press (LIST) momentarily.
The name assigned to the disc currently playing appears in the display.



2 Press (LIST) repeatedly until you find the desired disc.

3 Press (5) (ENTER) to play back the disc.

continue to next page →

Notes

- *Once a disc name has been displayed for five seconds, the display goes back to its normal playback mode. To turn off the display, press (DSPL).*
- *The track names are not displayed during MD playback.*
- *If there are no discs in the magazine, "NO DISC" appears in the display.*
- *If a disc has not been assigned a custom file, "********" appears in the display.*
- *If the disc information has not been read by the unit, "NO READ" appears in the display. To load the disc, first press the number button, then choose the disc that has not been loaded.*
- *The information is appears only in upper cases. There are also some letters which cannot be displayed (during MD playback).*

Selecting the specific tracks for playback

— Bank

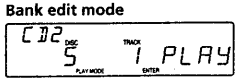
(CD changer with custom file function)

EN

If you label the disc, you can set the unit to skip tracks and play only the tracks you want.

1 Start playing the disc and press (SHIFT). Then press ③ (PLAY MODE) for two seconds.

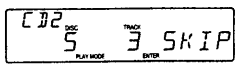
Bank edit mode



Note

If you have not labeled the disc, the bank edit mode does not appear. To go back to the normal playback mode, press (SHIFT).

2 Press either side of (SEEK/AMS) to select the track number you want to skip and press ⑤ (ENTER).



The indication changes from "PLAY" to "SKIP." If you want to return to "PLAY," press ⑤ (ENTER) again.

3 Repeat step 2 to set the "PLAY" or "SKIP" mode on all the tracks.

4 Press ③ (PLAY MODE) for two seconds.

Notes

- *You can set the "PLAY" and "SKIP" mode on up to 24 tracks.*
- *You cannot set the "SKIP" mode on all the tracks.*

Playing the specific tracks only

You can select:

- BANK-ON to play the tracks with the "PLAY" setting.
- BANK-INV (inverse) to play the tracks with the "SKIP" setting.

1 During playback, press (SHIFT), then press ③ (PLAY MODE) repeatedly until "BANK" appears.

2 Press ④ (→) repeatedly until the desired setting appears.

→ BANK-ON → BANK-INV → BANK-OFF

Playback starts from the track following the current one.

To go back to the normal playing mode, select "BANK-OFF" in step 2 above.

Connections

Caution

- This unit is designed for negative ground 12 V DC operation only.
- Before making connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the **yellow** and **red** power input leads only after all other leads have been connected.
- Be sure to connect the red power input lead to the positive 12 V power terminal which is energized when the ignition key is in the accessory position.
- **Run all ground wires to a common ground point.**

If your car has no accessory position on the ignition key switch
— POWER SELECT switch

The illumination on the front panel is factory-set to be turned on even when the unit is not being played. However, this setting may cause some car battery wear **if your car has no accessory position on the ignition key switch.** To avoid this battery wear, **set the POWER SELECT switch located on the bottom of the unit to the ⓑ position, then press the reset button.** The illumination is reset to stay off while the unit is not being played.

Note

The caution alarm for the front panel is not activated when the POWER SELECT switch is set to the ⓑ position.

Connexions

Précautions

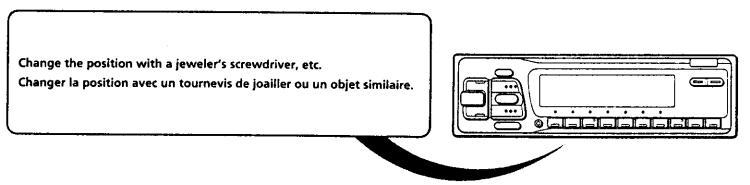
- Cet appareil est conçu pour fonctionner sur tension continue de 12 V avec masse négative.
- Avant d'effectuer les connexions, débrancher la borne de terre de la batterie du véhicule pour éviter tout court-circuit.
- Brancher les fils d'entrée d'alimentation **jaune** et **rouge** seulement après avoir terminé tous les autres branchements.
- Veiller à ne pas raccorder le fil rouge d'entrée d'alimentation à la borne positive de 12 V qui est alimentée quand la clé de contact est sur la position accessoires.
- **Rassembler tous les fils de terre en un point de masse commun.**

Si l'appareil est utilisé dans une voiture dont la clé de contact n'a pas de position accessoires
— Interrupteur POWER SELECT

L'éclairage du panneau avant est réglé en usine de manière à s'allumer même quand l'appareil ne fonctionne pas. Cependant, ce réglage risque d'épuiser la batterie **si l'appareil est utilisé dans une voiture dont la clé de contact ne possède pas de position accessoires.** Pour éviter d'épuiser la batterie, régler l'interrupteur **POWER sur le socle de l'appareil sur la position ⓑ, puis appuyer sur la touche de réinitialisation.** L'éclairage est réglé pour rester éteint quand l'appareil n'est pas utilisé.

Remarque

Quand l'interrupteur POWER SELECT est réglé sur la position ⓑ, l'avertisseur du panneau avant ne fonctionne pas.

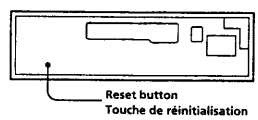

Change the position with a jeweler's screwdriver, etc.
Changer la position avec un tournevis de joaillier ou un objet similaire.

Reset Button

When the installation and connections are over, be sure to press the reset button with a ball-point pen etc.

Touche de réinitialisation

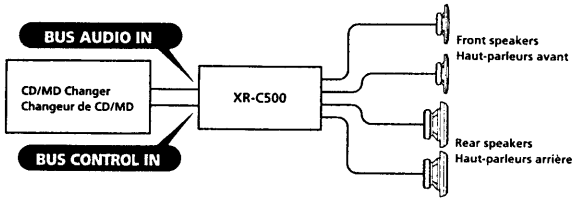
Quand l'installation et les connexions sont terminées, appuyer sur la touche de réinitialisation avec un stylo bille ou un objet pointu.



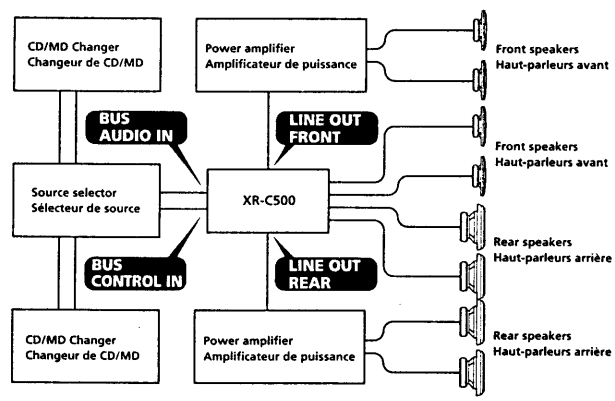
Connection Diagram

Schémas de connexion

Example 1/Exemple 1



Example 2/Exemple 2

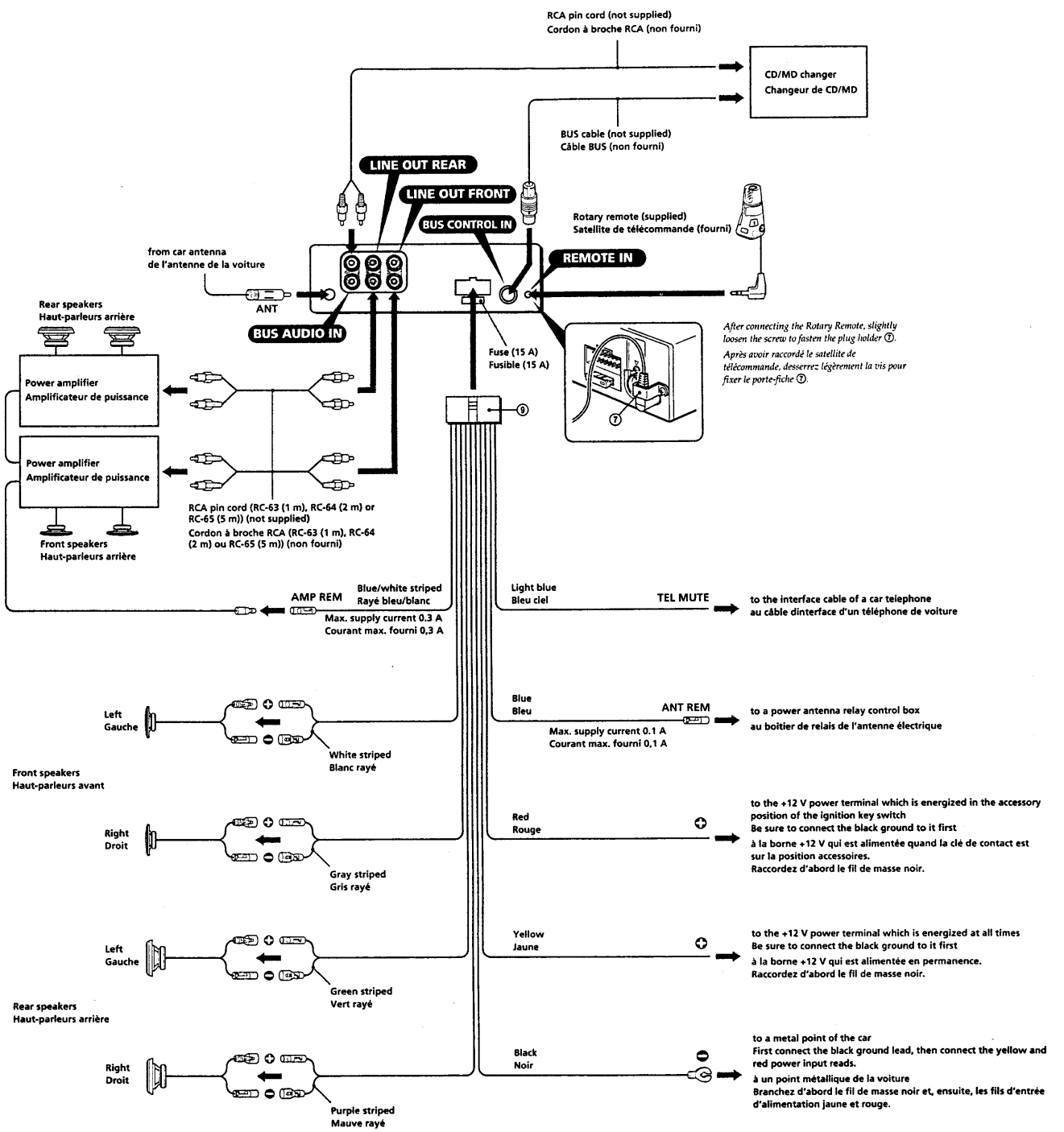


For connecting two or more changers, the source selector XA-U20 (optional) and the BUS cable RC-61 (1 m) or RC-62 (2 m) (optional) are necessary.

Pour le raccordement de deux ou plusieurs changeurs, vous devez utiliser le sélecteur de source XA-U20 (optionnels) et le câble BUS RC-61 (1 m) ou RC-62 (2 m) (optionnels).

Connections of Example

Connexions de l'exemple


RCA pin cord (not supplied)
Cordon à broche RCA (non fourni)
CD/MD changer
Changeur de CD/MD
BUS cable (not supplied)
Câble BUS (non fourni)
LINE OUT REAR
LINE OUT FRONT
BUS CONTROL IN
Rotary remote (supplied)
Satellite de télécommande (fourni)
REMOTE IN
from car antenna
de l'antenne de la voiture
ANT
BUS AUDIO IN
Rear speakers
Haut-parleurs arrière
Power amplifier
Amplificateur de puissance
Power amplifier
Amplificateur de puissance
Front speakers
Haut-parleurs arrière
RCA pin cord (RC-63 (1 m), RC-64 (2 m) or RC-65 (5 m)) (not supplied)
Cordon à broche RCA (RC-63 (1 m), RC-64 (2 m) ou RC-65 (5 m)) (non fourni)
Fuse (15 A)
Fusible (15 A)
After connecting the Rotary Remote, slightly loosen the screw to fasten the plug holder ⑦.
Après avoir raccordé le satellite de télécommande, desserrez légèrement la vis pour fixer le porte-fiche ⑦.
AMP REM
Blue/white striped
Rayé bleu/blanc
Max. supply current 0.3 A
Courant max. fourni 0,3 A
Light blue
Bleu ciel
TEL MUTE
to the interface cable of a car telephone
au câble dinterface d'un téléphone de voiture
Left
Gauche
White striped
Blanc rayé
Front speakers
Haut-parleurs avant
Blue
Bleu
ANT REM
Max. supply current 0.1 A
Courant max. fourni 0,1 A
to a power antenna relay control box
au boîtier de relais de l'antenne électrique
Right
Droit
Gray striped
Gris rayé
Red
Rouge
to the +12 V power terminal which is energized in the accessory position of the ignition key switch
Be sure to connect the black ground to it first
à la borne +12 V qui est alimentée quand la clé de contact est sur la position accessoires.
Raccordez d'abord le fil de masse noir.
Left
Gauche
Green striped
Vert rayé
Rear speakers
Haut-parleurs arrière
Yellow
Jaune
to the +12 V power terminal which is energized at all times
Be sure to connect the black ground to it first
à la borne +12 V qui est alimentée en permanence.
Raccordez d'abord le fil de masse noir.
Right
Droit
Purple striped
Mauve rayé
Black
Noir
to a metal point of the car
First connect the black ground lead, then connect the yellow and red power input reads.
à un point métallique de la voiture
Branchez d'abord le fil de masse noir et, ensuite, les fils d'entrée d'alimentation jaune et rouge.

Notes on the control leads

- *The power antenna control lead (blue) supplies +12 V DC when you turn on the tuner or when you activate the ATA (Automatic Tuner Activation) Function.*
- *A power antenna without relay box cannot be used with this unit.*

Memory hold connection

When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off.

Notes on speaker connection

- *Before connecting the speakers, turn the unit off.*
- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.*
- *Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.*
- *Do not attempt to connect the speakers in parallel.*
- *Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Therefore, be sure to connect passive speakers to these terminals.*

Remarques sur les fils de contrôle

- *Le fil de contrôle (bleu) de l'antenne électrique fournit un courant continu de +12 V quand le tuner est allumé ou quand la fonction ATA (Activation automatique du tuner) est mise en service.*
- *Une antenne électrique sans boîtier de relais ne peut pas être utilisée avec cet appareil.*

Connexion pour la conservation de la mémoire

Lorsque le fil d'entrée d'alimentation jaune est connecté, le circuit de la mémoire est alimenté en permanence même si la clé de contact est sur la position d'arrêt.

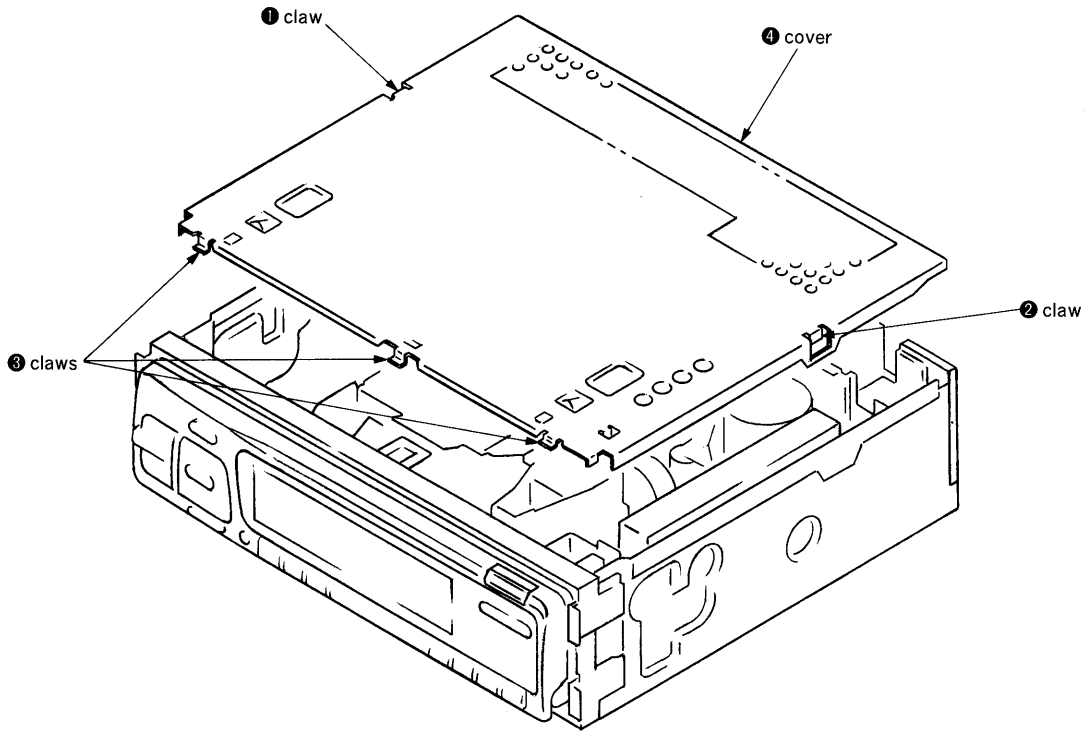
Remarques sur la connexion des haut-parleurs

- *Avant de raccorder les haut-parleurs, mettre l'appareil hors tension.*
- *Utiliser des haut-parleurs ayant une impédance de 4 à 8 ohms et une capacité adéquate sous peine de les endommager.*
- *Ne pas raccorder les bornes du système de haut-parleurs au châssis de la voiture et ne pas connecter les bornes du haut-parleur droit à celles du haut-parleur gauche.*
- *Ne pas tenter de raccorder les haut-parleurs en parallèle.*
- *Ne pas raccorder des haut-parleurs actifs (avec amplificateurs intégrés) aux bornes de haut-parleur de l'appareil sous peine de les endommager. Veiller à raccorder des haut-parleurs passifs à ces bornes.*

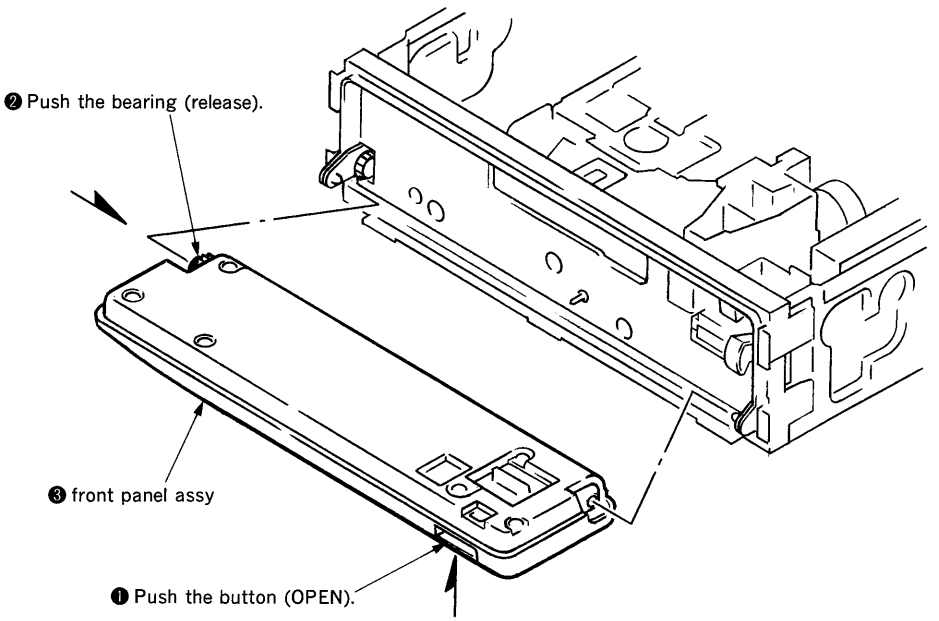
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

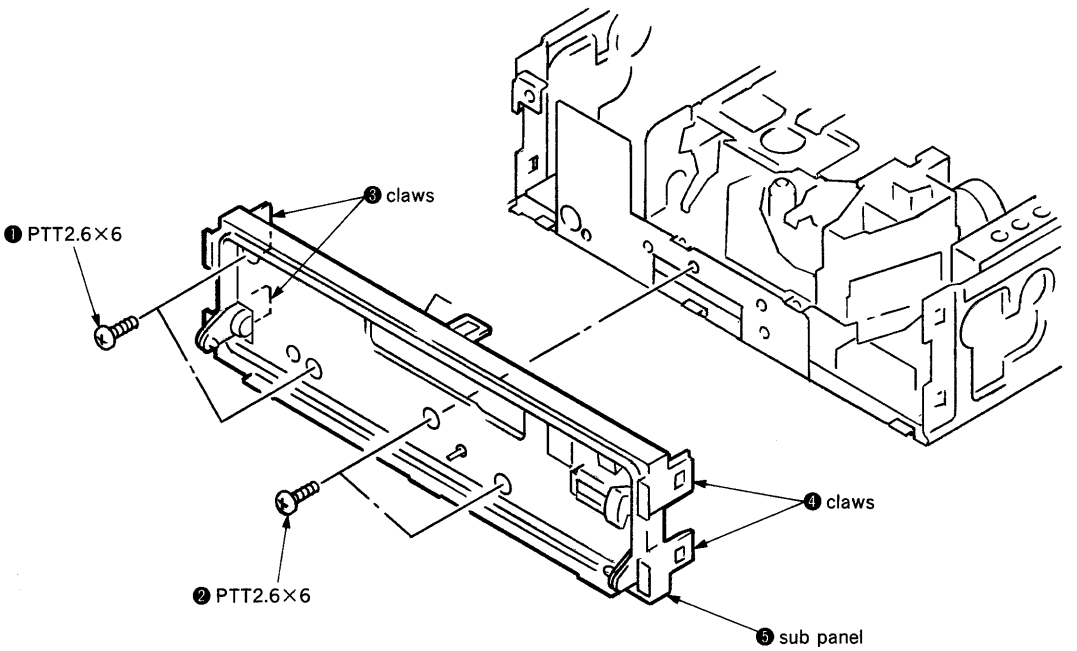
2-1. COVER



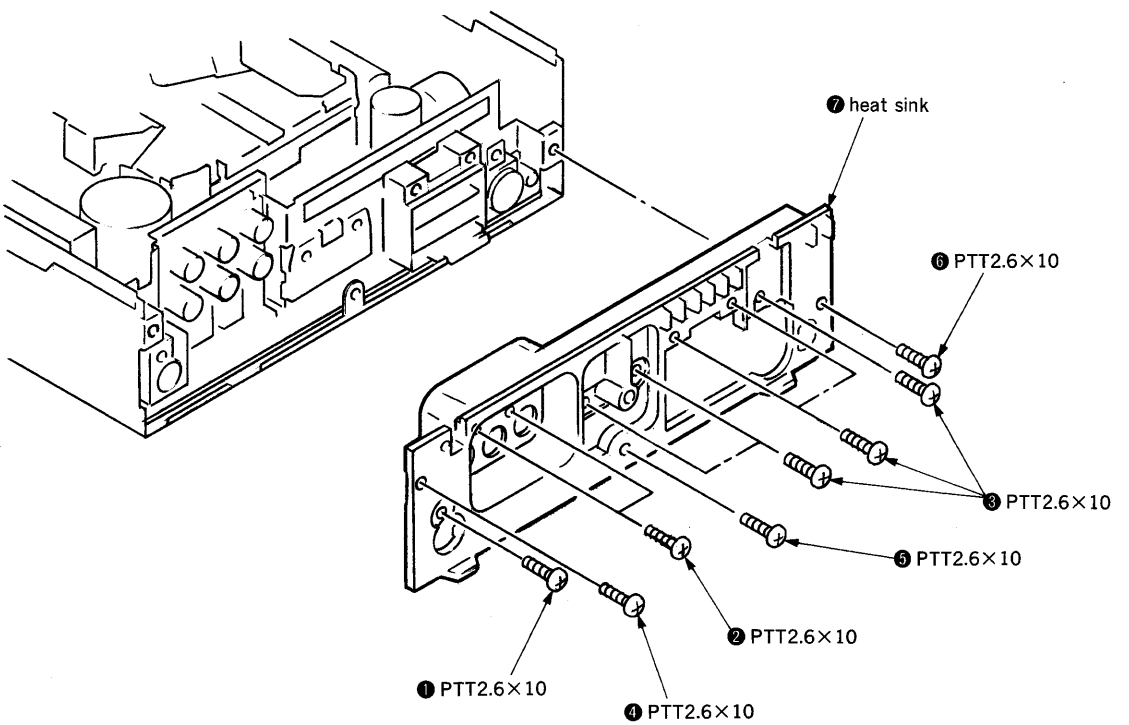
2-2. FRONT PANEL ASSY



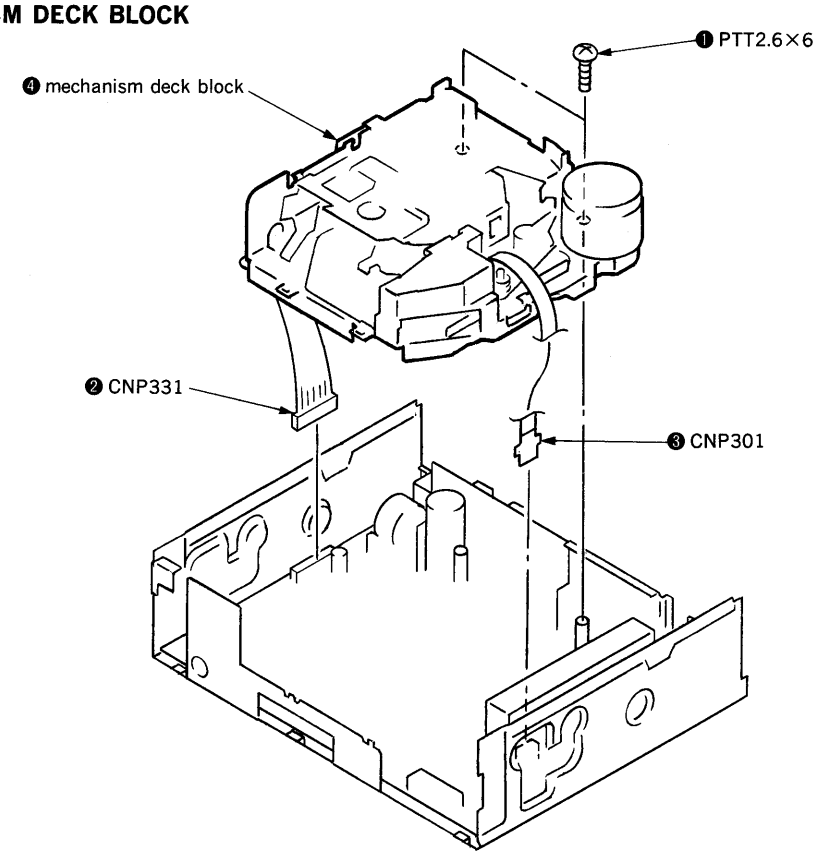
2-3. SUB PANEL



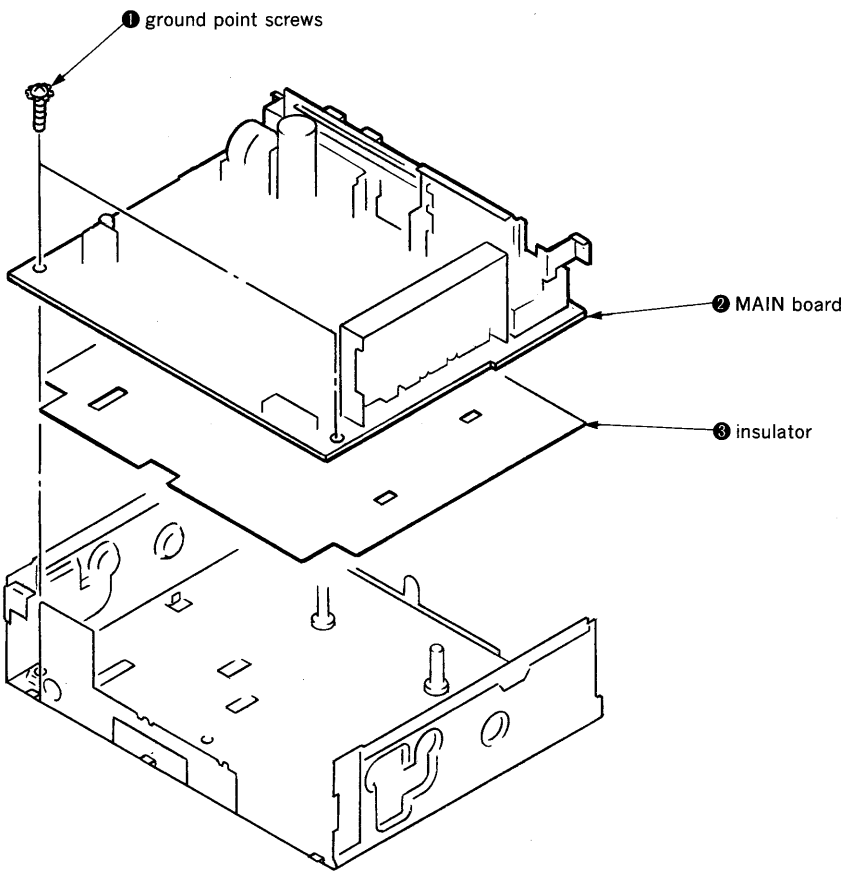
2-4. HEAT SINK



2-5. MECHANISM DECK BLOCK



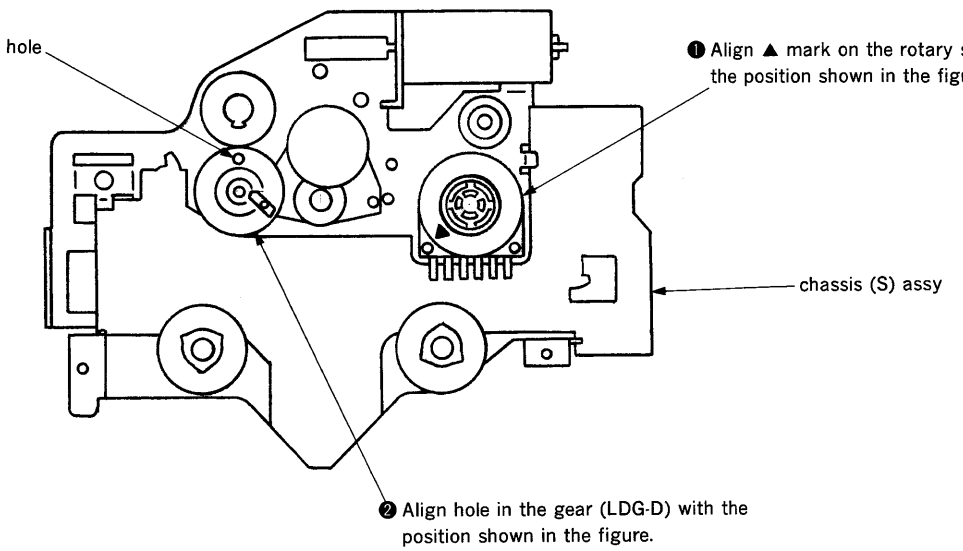
2-6. MAIN BOARD



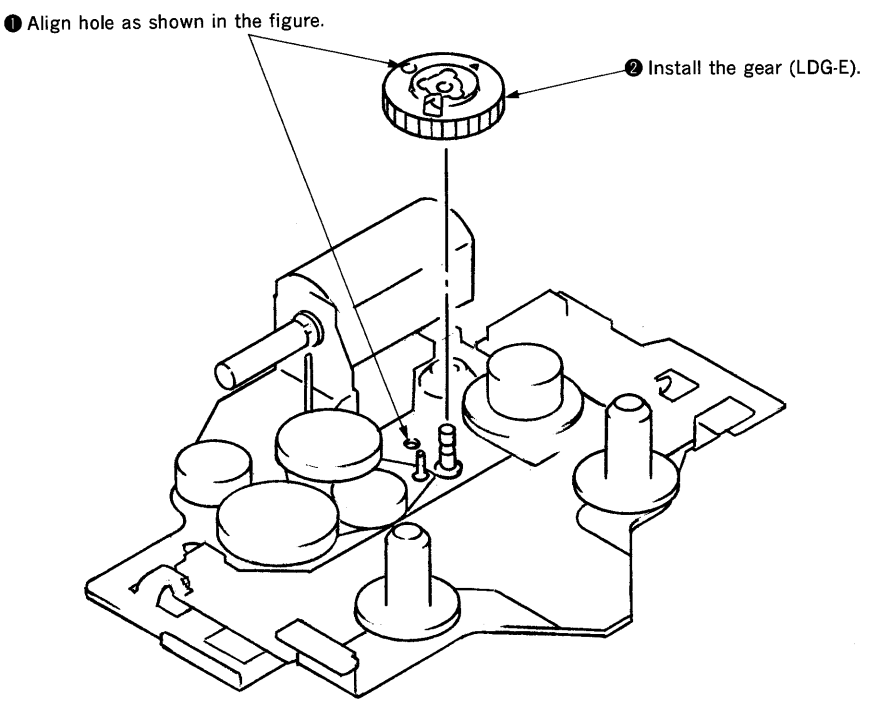
SECTION 3
ASSEMBLY OF MECHANISM DECK

Note : Follow the assembly procedure in the numerical order given.

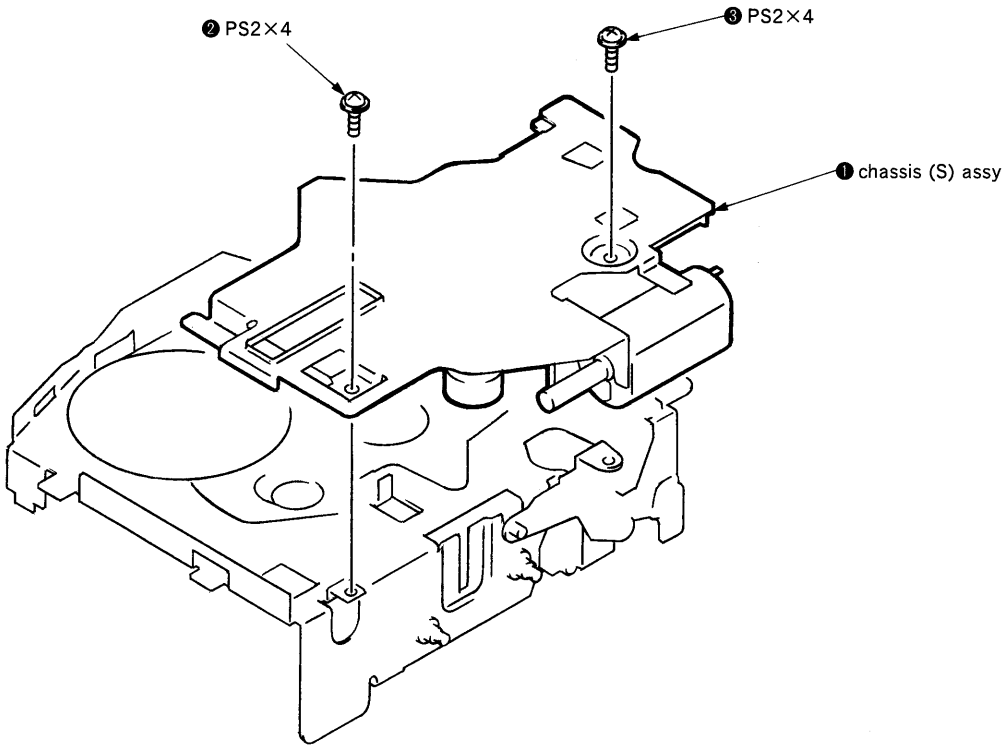
3-1. ALIGNMENT OF ROTARY SWITCH


hole
❶ Align ▲ mark on the rotary switch the position shown in the figure.
chassis (S) assy
❷ Align hole in the gear (LDG-D) with the position shown in the figure.

3-2. GEAR (LDG-E)



3-3. CHASSIS (S) ASSY



3-4. LEVER (MODE)

1) Align ▲ mark on the rotary switch with hole in the lever (mode). (See Fig. 1)
2) Fit on positions Ⓐ, Ⓑ and Ⓒ and install the lever (mode).

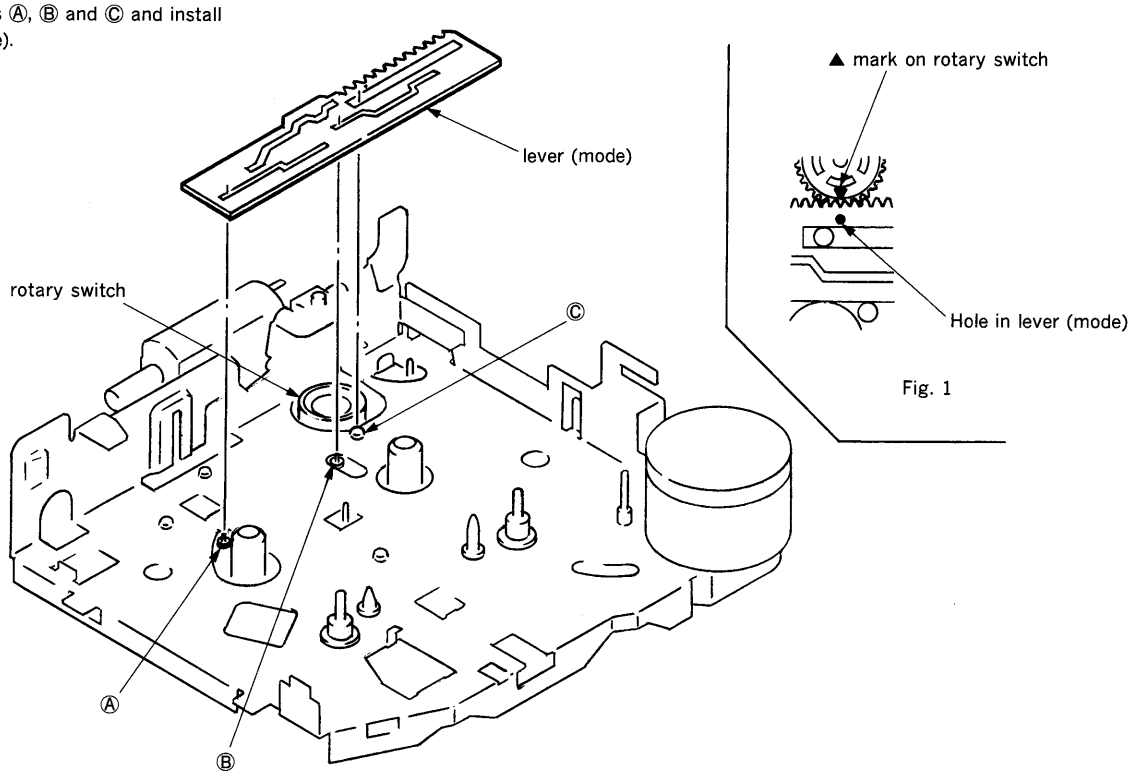
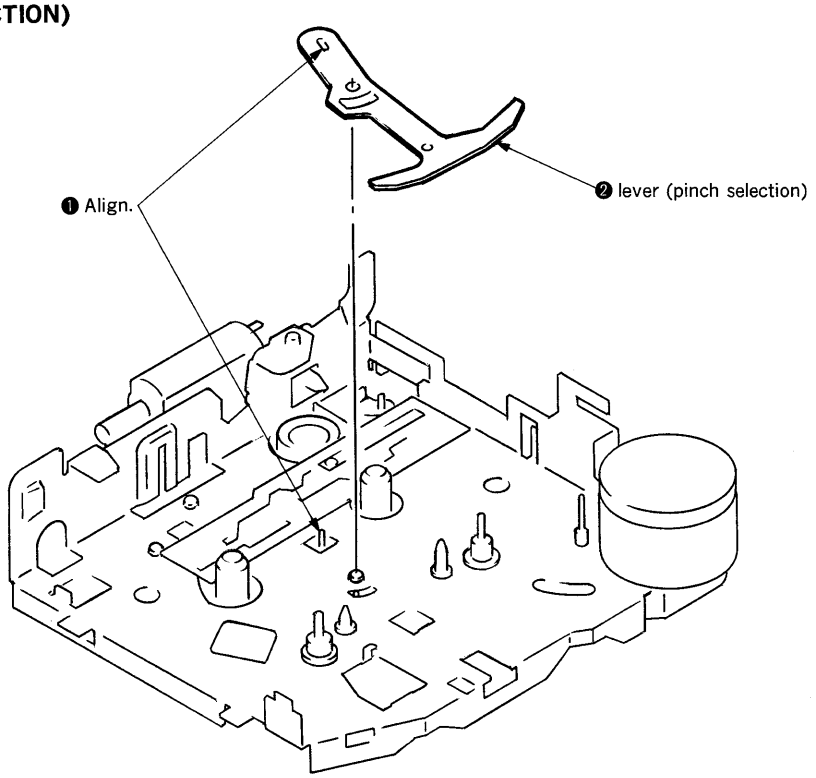
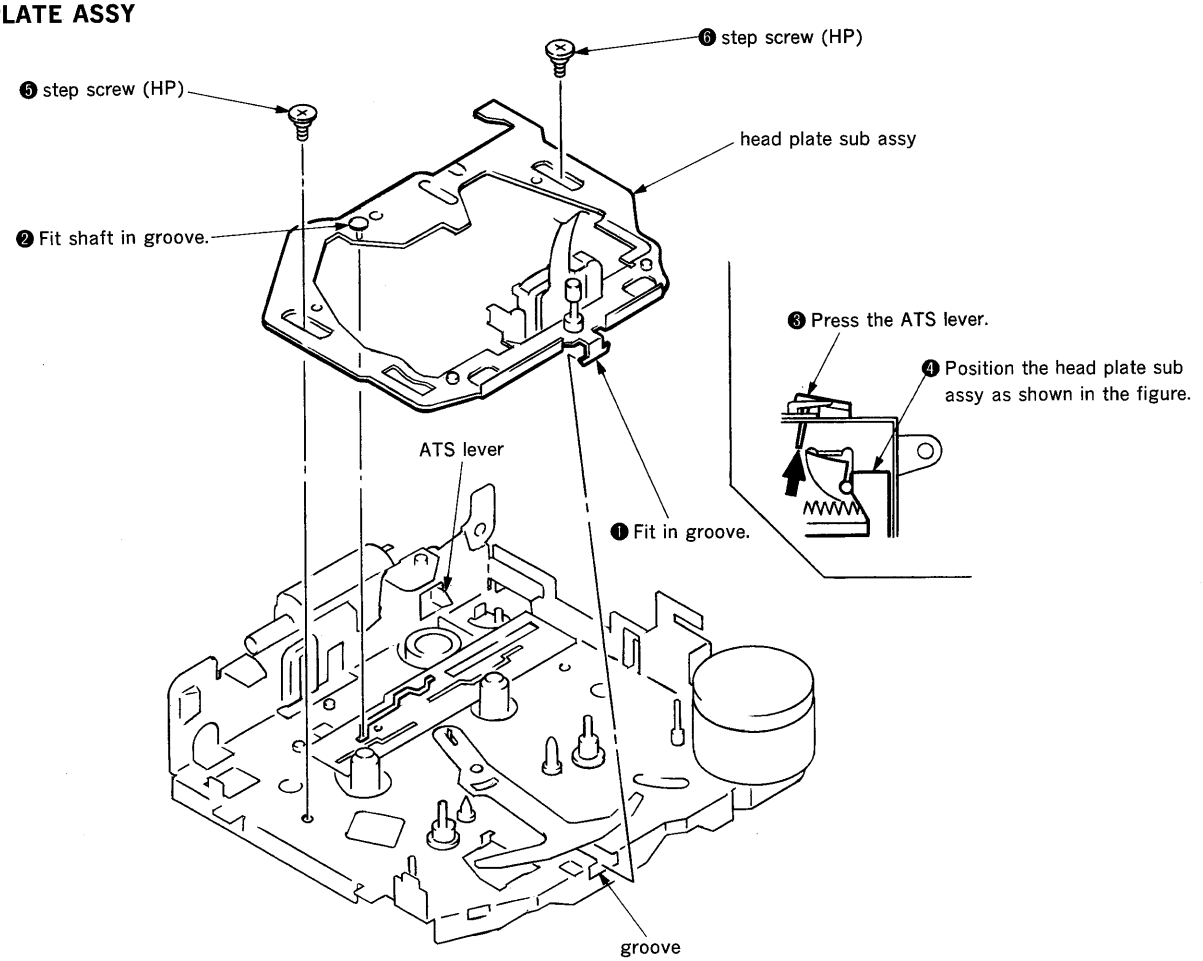


Fig. 1

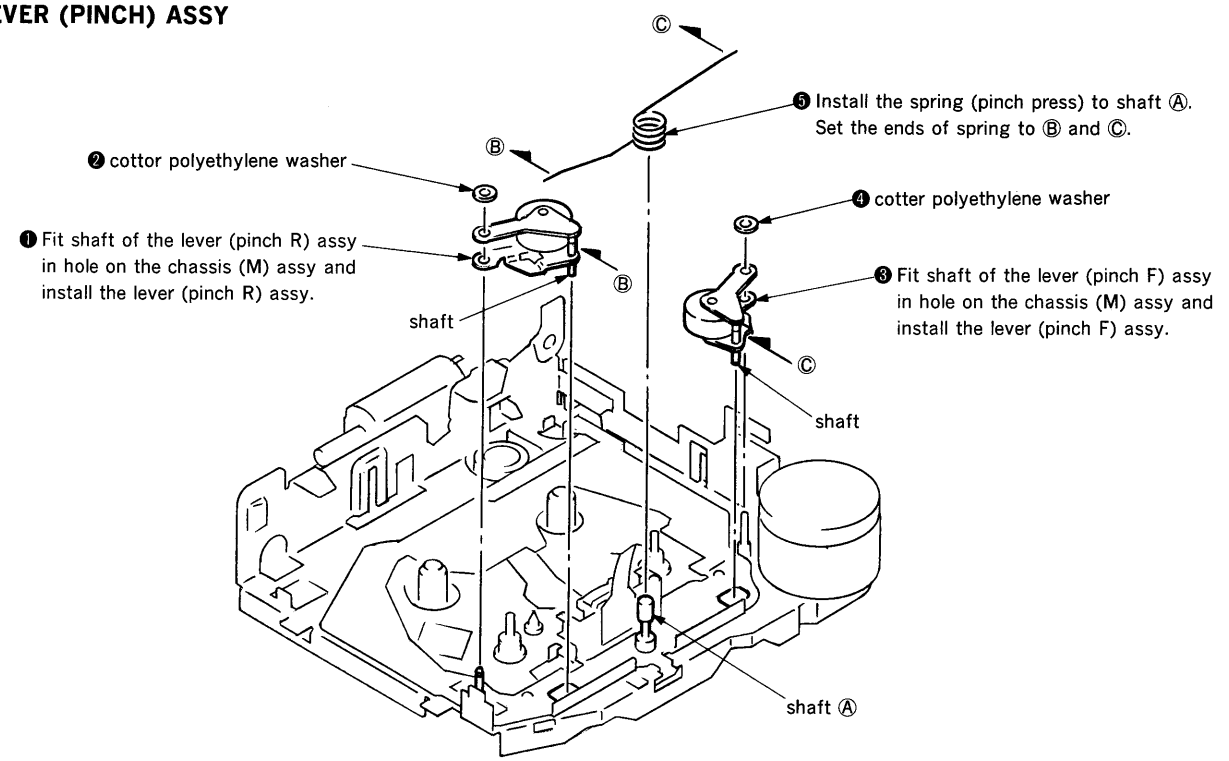
3-5. LEVER (PINCH SELECTION)



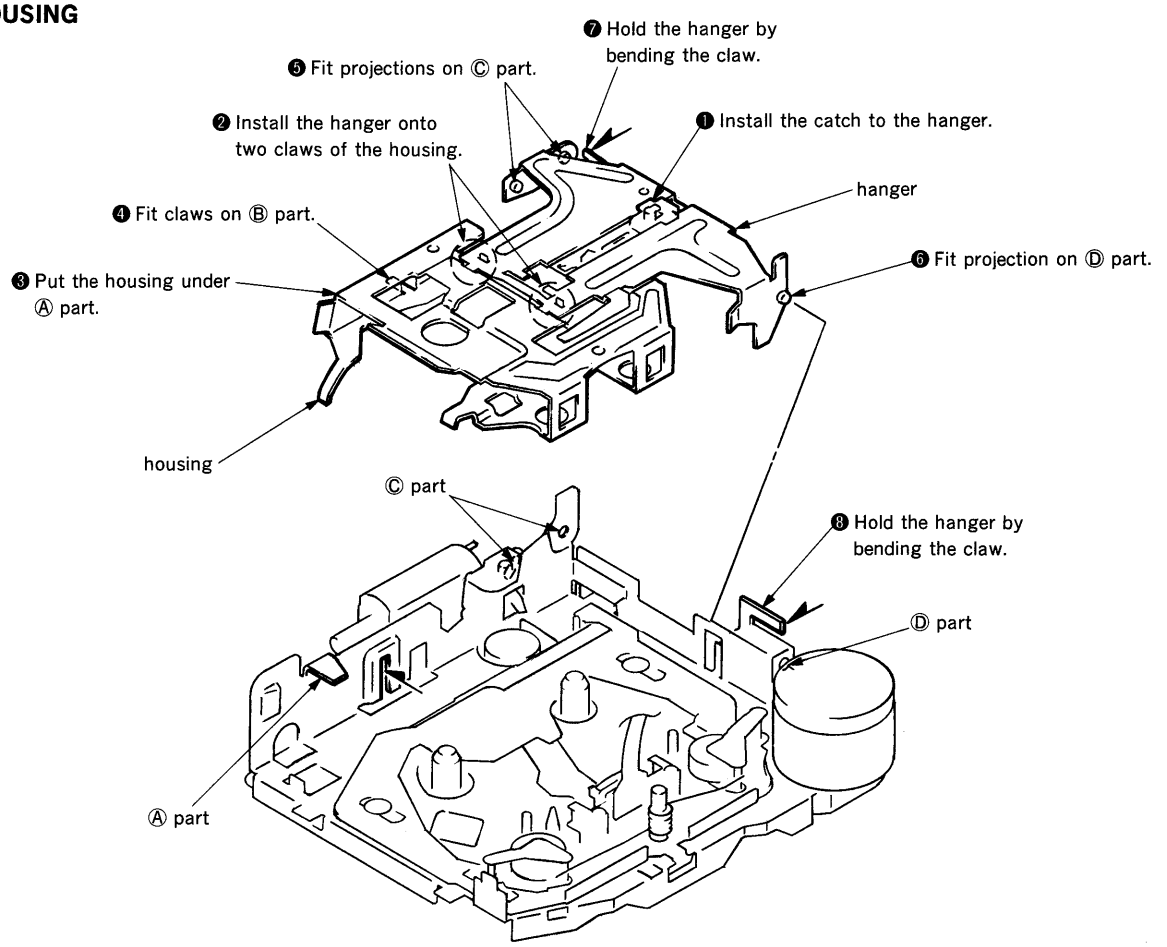
3-6. HEAD PLATE ASSY


❻ step screw (HP)
❺ step screw (HP)
head plate sub assy
❷ Fit shaft in groove.
❸ Press the ATS lever.
❹ Position the head plate sub assy as shown in the figure.
ATS lever
❶ Fit in groove.
groove

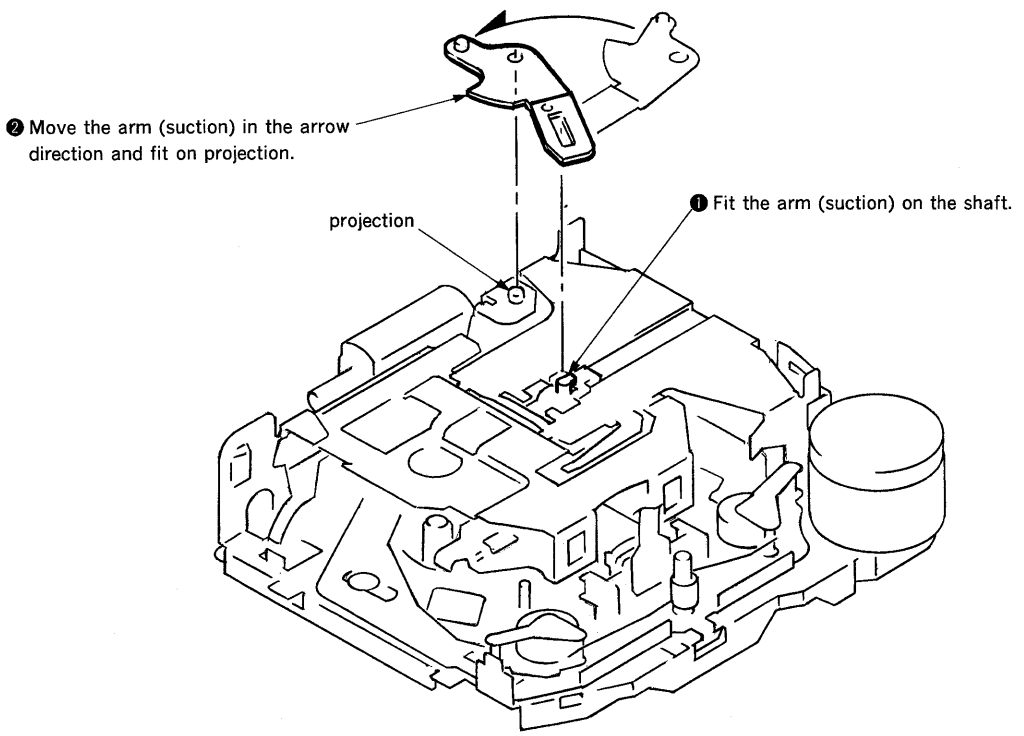
3-7. LEVER (PINCH) ASSY


Ⓒ
❺ Install the spring (pinch press) to shaft Ⓐ.
Set the ends of spring to Ⓑ and Ⓒ.
Ⓑ
❷ cottor polyethylene washer
❹ cotter polyethylene washer
❶ Fit shaft of the lever (pinch R) assy
in hole on the chassis (M) assy and
install the lever (pinch R) assy.
Ⓑ
❸ Fit shaft of the lever (pinch F) assy
in hole on the chassis (M) assy and
install the lever (pinch F) assy.
shaft
Ⓒ
shaft
shaft Ⓐ

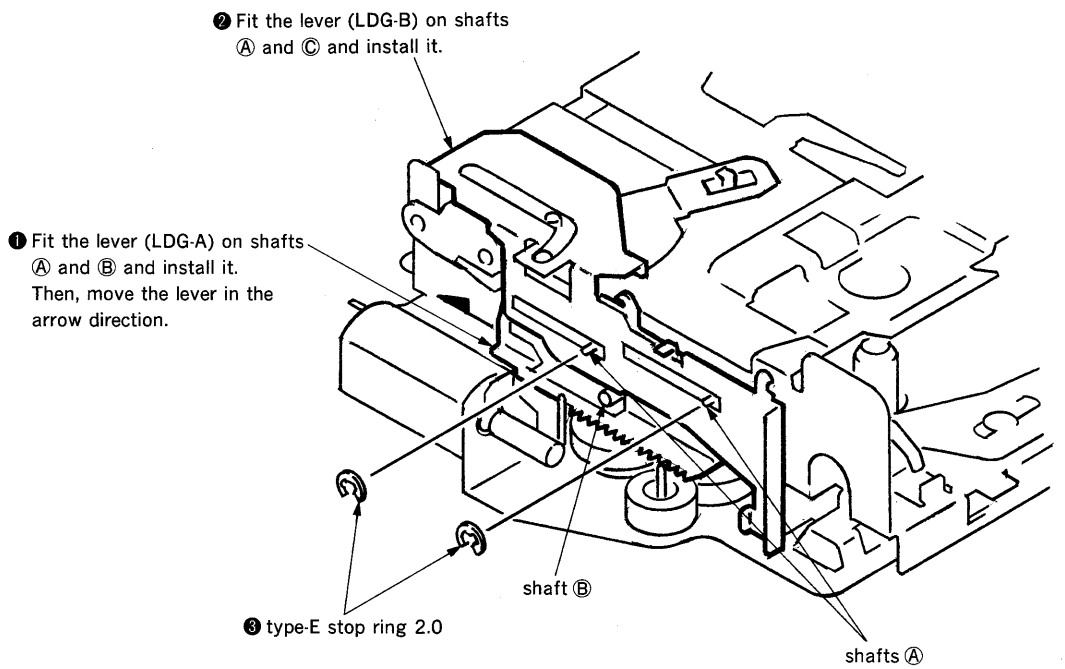
3-8. HOUSING



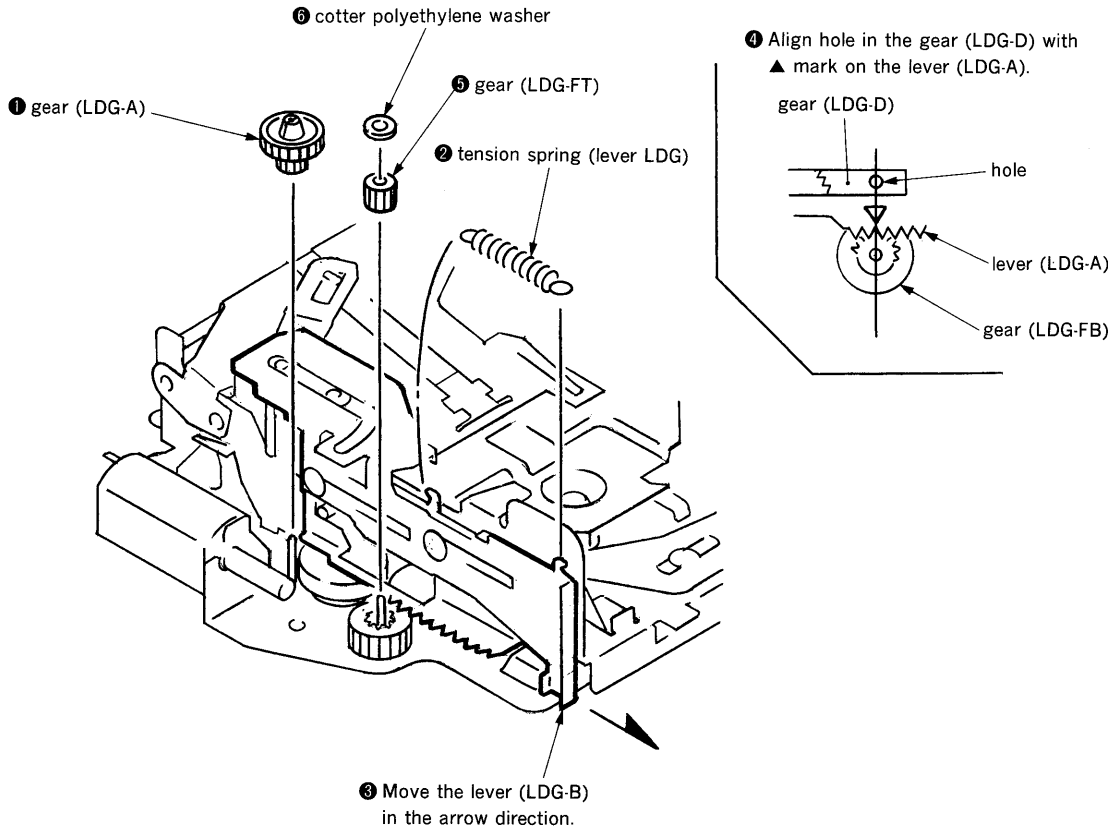
3-9. ARM (SUCTION)



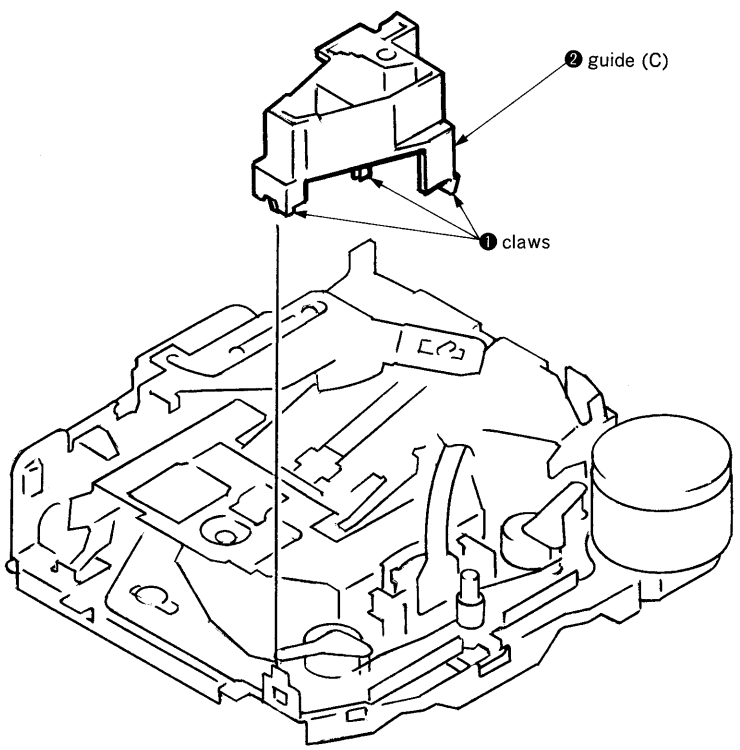
3-10. LEVER (LDG-B)


❷ Fit the lever (LDG-B) on shafts Ⓐ and Ⓒ and install it.
❶ Fit the lever (LDG-A) on shafts Ⓐ and Ⓑ and install it. Then, move the lever in the arrow direction.
shaft Ⓑ
❸ type-E stop ring 2.0
shafts Ⓐ

3-11. GEAR (LDG-FT)


❻ cotter polyethylene washer
❶ gear (LDG-A)
❺ gear (LDG-FT)
❷ tension spring (lever LDG)
❸ Move the lever (LDG-B) in the arrow direction.
❹ Align hole in the gear (LDG-D) with ▲ mark on the lever (LDG-A).
gear (LDG-D)
hole
lever (LDG-A)
gear (LDG-FB)

3-12. GUIDE (C)



SECTION 4
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Wipe the following components with an absorbent cotton cloth moistened with alcohol before adjustment:
   PB head　　Pinch roller
   Idler　　Rubber belt
   Capstan
2. Demagnetize the PB head using a head demagnetizer.
3. Be careful not to use a magnetized screwdriver.
4. After the adjustment is completed, lock the adjustment parts using screws.
5. Unless otherwise specified, make adjustments at the specified voltage (14.4V).

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	35−65g•cm (0.49−0.90 oz•inch)
FWD Back Tension		0.5−5.0g•cm (0.01−0.07 oz•inch)
REV	CQ-102RC	35−65g•cm (0.49−0.90 oz•inch)
REV Back Tension		0.5−5.0g•cm (0.01−0.07 oz•inch)
FF, REW	CQ-201B	60−200g•cm (0.83−2.78 oz•inch)

Tape Tension Measurement

Mode	Tension Meter	Meter Reading
FWD	CQ-403A	more than 60g (more than 2.12 oz)
REV	CQ-403R	

SECTION 5
ELECTRICAL ADJUSTMENTS

TEST MODE

This set have the test mode function. In the test mode, FM Auto Scan/Stop Level and AM Auto Scan/Stop Level adjustments can be performed easier than it in ordinary procedure.

〈Set the Test Mode〉

1. Set the "OFF" mode.
2. Push the preset [4] button.
3. Push the preset [5] button.
4. Press the preset [1] button for more than two seconds.
5. Then the display indicates all lights, the test mode is set.

〈Release the Test mode〉

1. Push the "OFF" button.

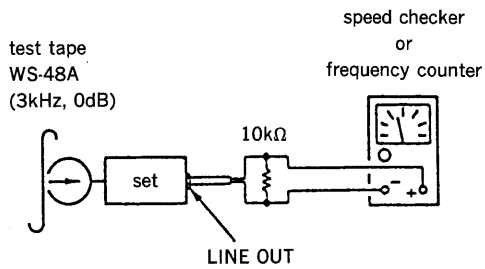
See the adjustment location from on page 23 for the adjustment.

DECK SECTION　**0dB=0.775V**

Tape Speed Adjustment

Procedure:

1. Put the set into the FWD PB mode.



Specification: Constant speed

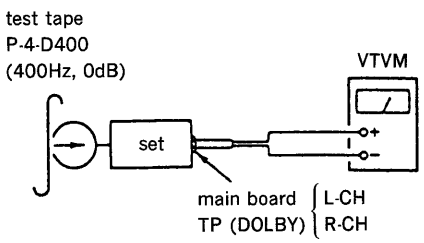
Speed checker	Frequency counter
−1.5 to +2.5%	2,955 to 3,075Hz

Adjustment Location: See page 23.

DOLBY Level Adjustment

Setting:

SHIFT button : ON (light up SET UP and PLAY MODE)
Preset [3] (PLAY MODE) button : NR OFF
SOUND (BAS) button : Center
SOUND (TRE) button : Center
SOUND (BAL) button : Center
SOUND (FAD) button : Center
SOUND (VOL) button : Maximum



Procedure:

1. Put the set into the FWD PB mode.
2. Adjust RV121 (L-CH) and RV221 (R-CH) so that VTVM reading is −6±0.5 dB (0.37 to 0.41V).

Adjustment Location: See page 23.

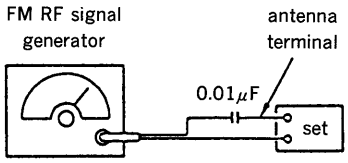
TUNER SECTION **0dB=1μV**

Cautions during repair
When the tuner unit is defective, replace it by a new one because its internal block is difficult to repair.

FM Auto Scan/Stop Level Adjustment

Setting :

SOURCE button : FM
Frequency Select switch (E model) : FM 200k

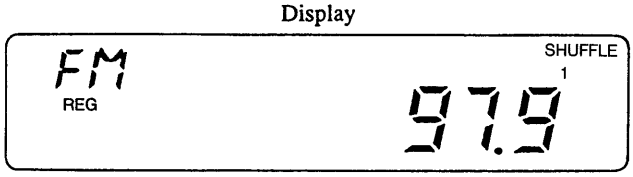


Carrier frequency : 97.9MHz
Output level : 22dB (12.6μV)
Mode : mono
Modulation : 1kHz, 22.5kHz deviation (30%)

Procedure :

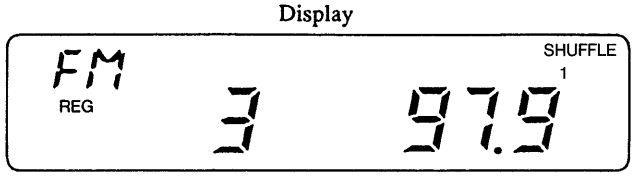
1. Set to the test mode. (See page 20.)
2. Push the [SOURCE] button and set to FM.

Display



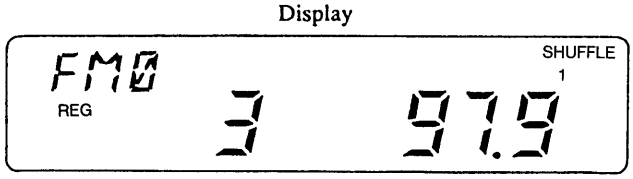
3. Push the preset [3] button.

Display



4. Adjust with the volume RV2 on TU1 so that the "FM" indication turns to "FM0" indication on the display window.
   But, in case of already indicated "FM0", turn the RV2 so that put out light "0" indication and adjustment.

Display

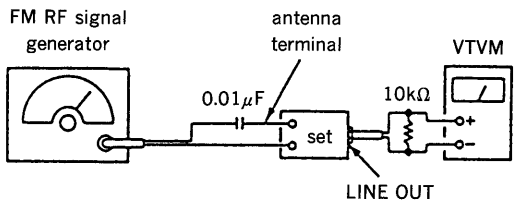


Adjustment Location : See page 23.

FM Noise Focus Adjustment

Setting :

SOURCE button : FM
Frequency Select switch (E model) : FM 200k



Carrier frequency : 97.9MHz
Output level : 60dB (1mV)
Mode : mono
Modulation : 1kHz, 75kHz deviation (100%)

Procedure :

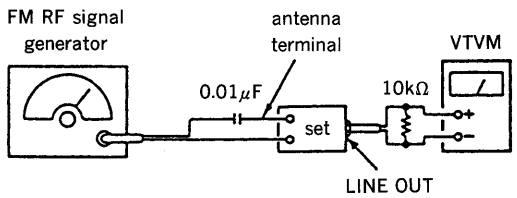
1. Tune the 97.9MHz.
2. The then output level is supposing that (A) dB.
3. Adjust with the volume RV3 on TU1 so that the output level is (A)−32dB then signal generator input set to −20dB.

Adjustment Location : See page 23.

FM Stereo Separation Adjustment

Setting :

SOURCE button : FM
Frequency Select switch (E model) : FM 200k



Carrier frequency : 97.9MHz
Output level : 70dB (3.2mV)
Mode : stereo
Modulation : main : 1kHz, 33.75kHz deviation (45%)
sub : 1kHz, 33.75kHz deviation (45%)
19kHz pilot : 7.5kHz deviation (10%)

Procedure :

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV4 on TU1 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV4 on TU1 for minimum reading.

L-CH Stereo separation : Ⓐ−Ⓑ
R-CH Stereo separation : Ⓒ−Ⓓ
The separations of both channels should be equal.

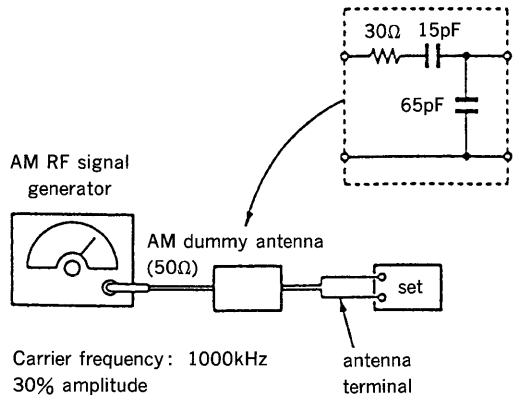
Specification : Separation more than 30dB

Adjustment Location : See page 23.

AM Auto Scan/Stop Level Adjustment

Setting :

SOURCE button : AM
Frequency Select switch (E model) : AM 10k

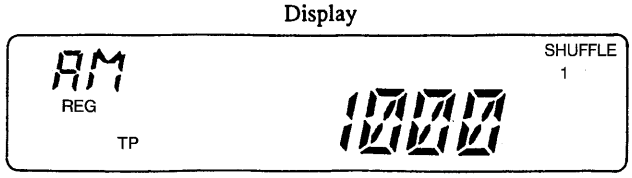


Carrier frequency : 1000kHz
30% amplitude modulation by 1kHz signal
Output level : 33dB (44.7μV)

Procedure :

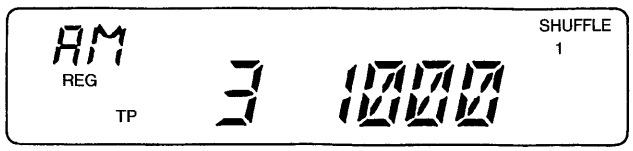
1. Set to the test mode. (See page 20.)
2. Push the [SOURCE] button and set to AM.

Display



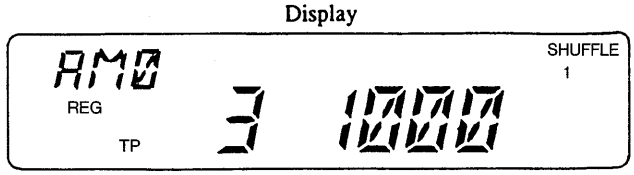
3. Push the preset [3] button.

Display



4. Adjust with the volume RV1 on TU1 so that the "AM" indication turns to "AM0" indication on the display window.
   But, in case of already indicated "AM0", turn the RV1 so that put out light "0" indication and adjustment.

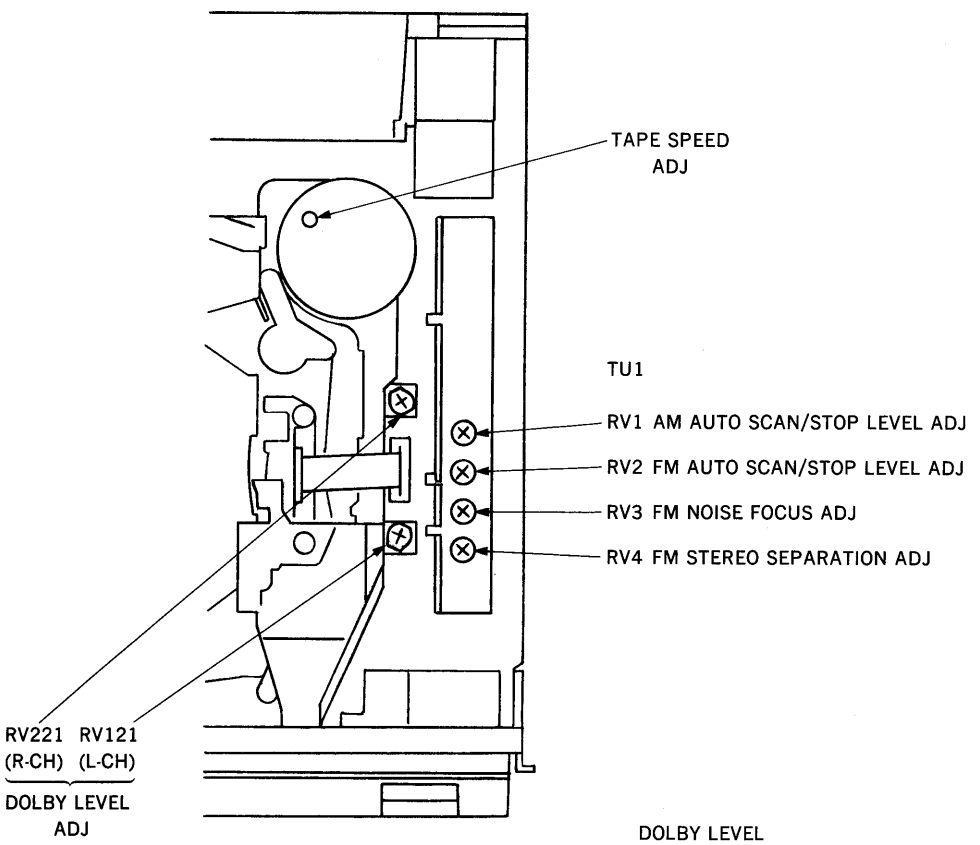
Display



Adjustment Location : See page 23.

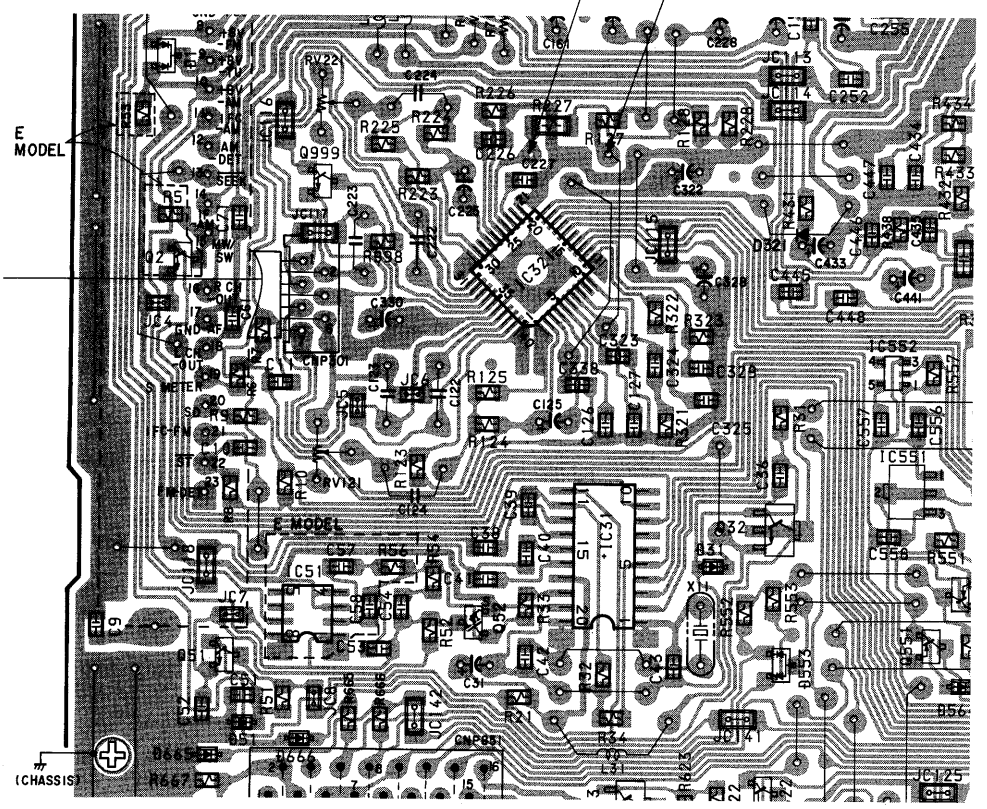
Adjustment Location :

—SET UPPER VIEW—



DOLBY LEVEL
ADJ
TP (DOLBY)
R-CH L-CH

—main board (conductor side)—



SECTION 6
DIAGRAMS

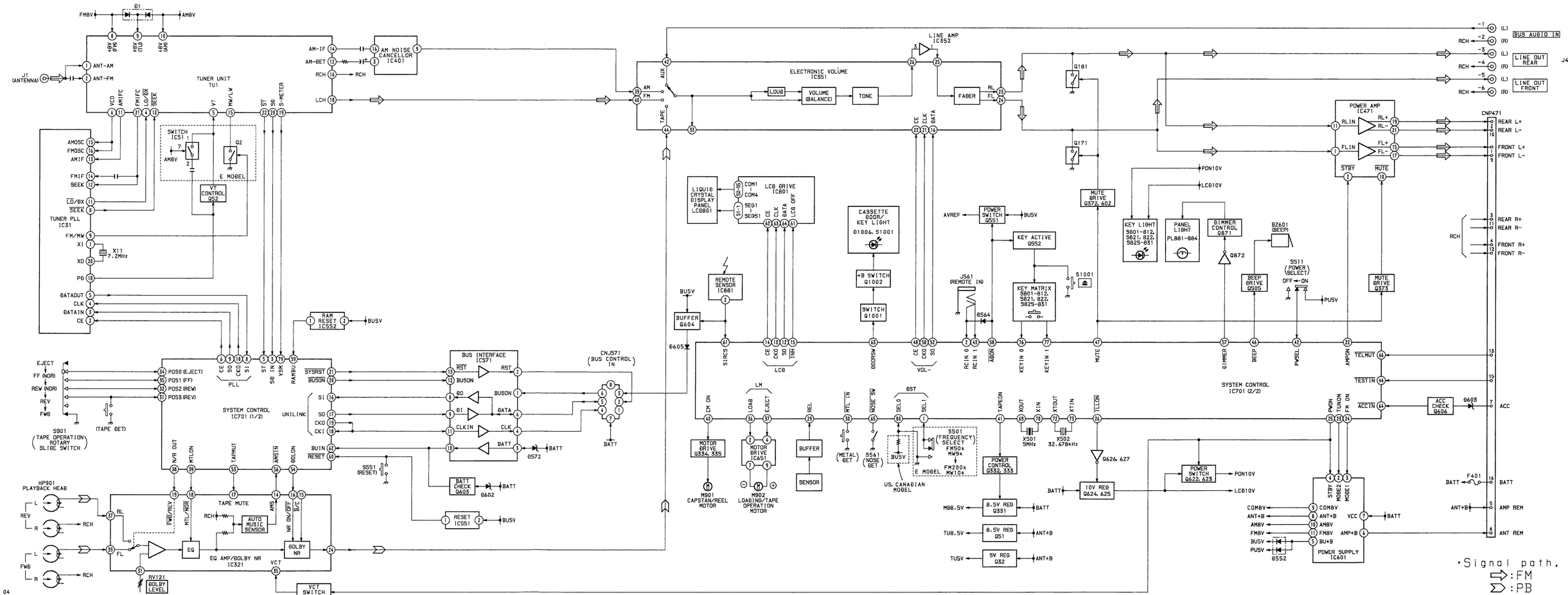
6-1. IC PIN DESCRIPTION

• IC701 μPD78058GC-178-3B9 (SYSTEM CONTROL)

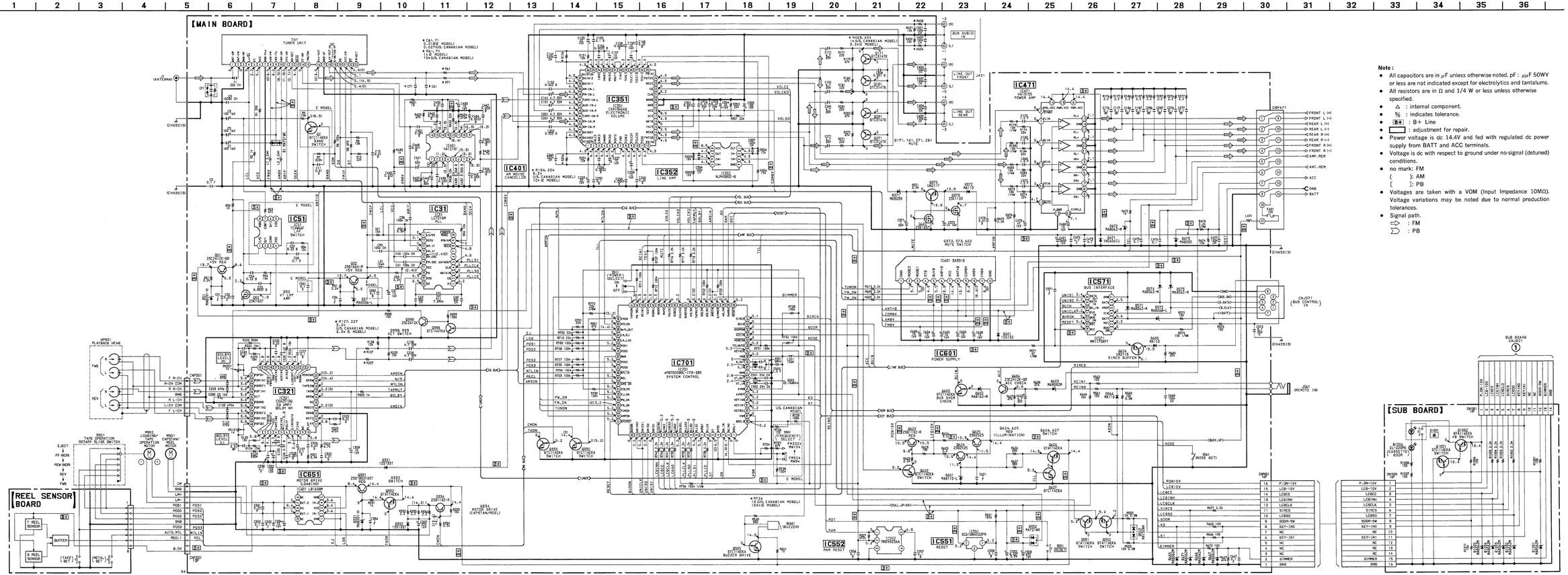
Pin No.	Pin Name	I/O	Pin Description
1	DSEL1	I	Destination the first setting A/D input
2	RCIN0	I	Rotary commander input
3	SD IN	I	Station detector detect input
4	AVSS	—	GND
5	ST	I/O	STEREO input/MONO output (FM mode)
6	PLLCE	O	PLL serial chip enable output
7	AVREF	—	D/A conversion reference power supply voltage
8	PLLSI	I	PLL serial data input
9	PLLSO	O	PLL serial data output
10	PLLCKO	O	PLL serial clock output
11	COLSEL	I	Illumination color select input. Fixed at "H" (GREEN).
12	LCDSO	O	LCD serial data output
13	LCDCKO	O	LCD serial clock output
14	LCDCE	O	LCD chip enable output
15	$\overline{\text{LCDINH}}$	O	LCD blank display control output
16	UNISI	I	Serial data input
17	UNISO	O	Serial data output
18	UNICKI	I	Serial clock input
19	UNICKO	O	Serial clock output
20	$\overline{\text{BUSON}}$	O	BUS ON control output
21	$\overline{\text{SYSRST}}$	O	System reset control output
22	AMPON	O	Power amplifier power control output
23	TUNON	O	Tuner power control output
24	FM ON	O	FM power control output
25	PW ON	O	System power control output
26	ILLON	O	Illumination power control output
27	COLOR	I/O	Illumination color select control input/output
28	$\overline{\text{AMS ON}}$	O	Tape AMS (Auto Music Sensor) control output
29	REL	I	Reel table rotation detect input
30	$\overline{\text{MTLIN}}$	I	Auto METAL detect input
31, 32	POS3, POS2	I	Position signal detect input
33	GND	—	GND
34, 35	POS0, POS1	I	Position signal detect input
36	LM LOD	O	Loading motor control output (Loading direction : forward)
37	LM EJ	O	Loading motor control output (Eject direction : reverse)
38	N/R OUT	O	Forward/Reverse detect output
39	MTLON	O	METAL control output
40	CMON	O	Capstan motor control output
41	TAPEON	O	Tape power control output
42	PW SEL	I	Power select the first setting input
43	RCIN1	I	Rotary commander input
44	TEST	I	Test mode setting input
45	EQSEL	I	Equalizer connection with/without the first setting input
46	BEEP	O	Buzzer control output
47	MUTE	O	System mute control output
48	VOLCE	O	Electronic volume serial chip enable output
49	SUBCE	O	Sub volume serial chip enable output. Not used in this set.

Pin No.	Pin Name	I/O	Pin Description
50	VOLCKO	O	Electronic volume serial clock output
51	SUBCKO	O	Sub volume serial clock output. Not used in this set.
52	VOLSO	O	Electronic volume serial data output
53	TAPMUT	O	Tape mute control output
54	DOLON	I/O	DOLBY control input/output
55	DOLBC	I/O	DOLBY B/C select control input/output
56	$\overline{\text{AMSIN}}$	I	At AMS, music with/without detect input
57	DIMMER	I/O	Dimmer control input/output
58	AD ON	O	A/D select power control output
59	RAMBU	I	RAM reset detect input
60	$\overline{\text{RESET}}$	I	Reset input
61	SIRCS	I	Remote commander input
62	BUIN	I	Back-up power detect input
63	$\overline{\text{DOORSW}}$	I	Front panel open/close detect input
64	$\overline{\text{ACCIN}}$	I	Accessory power detect input
65	$\overline{\text{NOSESW}}$	I	Front panel with/without detect input
66	TELMUTE	I	Telephone mute detect input
67	KEYACK	I	Key input acknowledge
68	VDD	—	Microcomputer power voltage supply
69	X OUT	—	Main ceramic oscillator output (5MHz)
70	X IN	—	Main ceramic oscillator input (5MHz)
71	GND	—	GND
72	XT OUT	—	Sub crystal oscillator output (32.768kHz)
73	XT IN	—	Sub crystal oscillator input (32.768kHz)
74	AVDD	—	A/D conversion power supply voltage
75	AVREF	—	A/D conversion reference power supply voltage
76, 77	KEYIN0, KEYIN1	I	Key input
78	KEYSEL	I	Key function select the first setting input. Fixed at "L".
79	VSM	I	Signal meter AD input port terminal of FM.
80	DSEL0	I	Destination the first setting A/D input

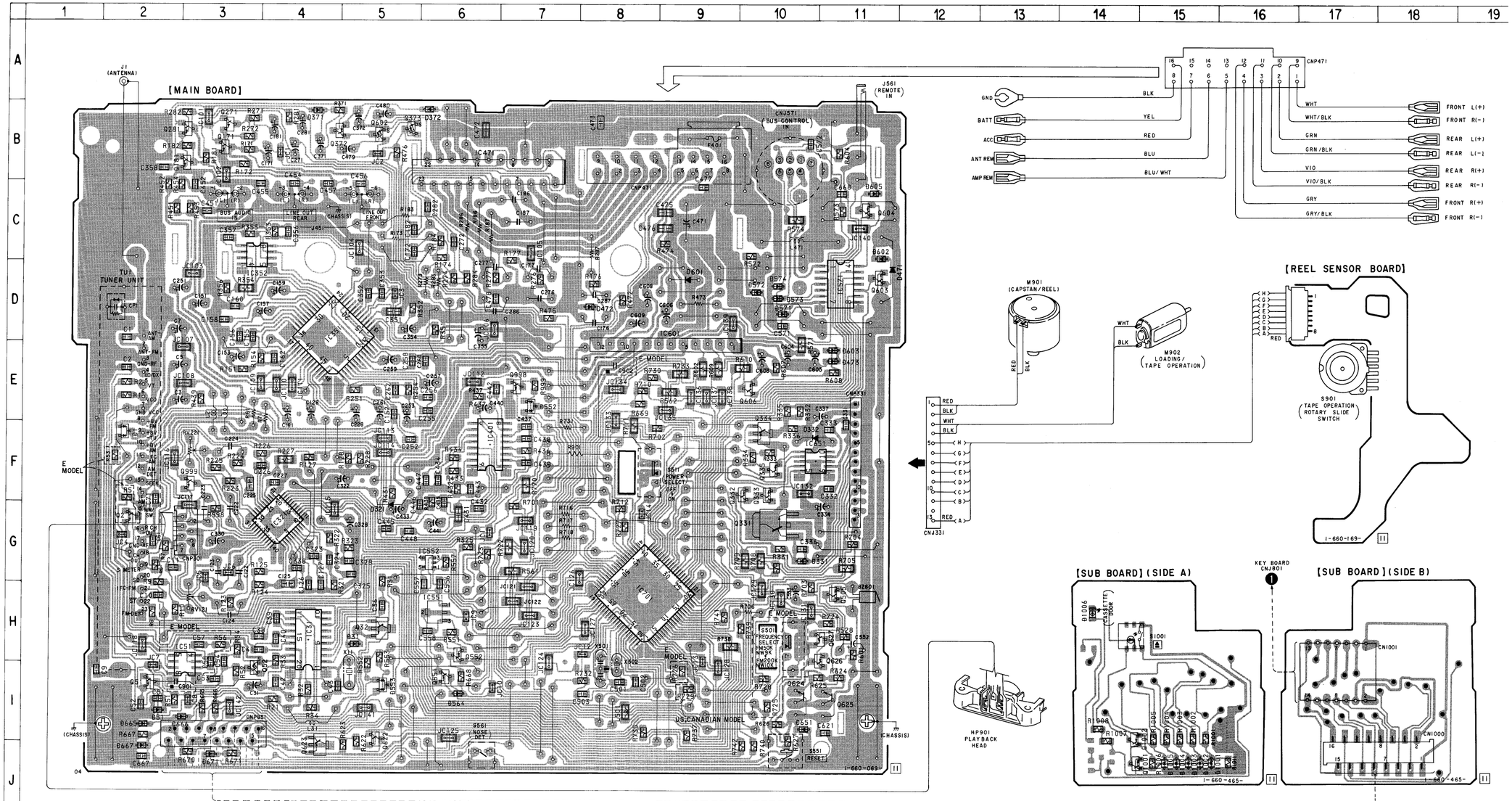
6-2. BLOCK DIAGRAM



6-3. SCHEMATIC DIAGRAM—MAIN SECTION— • Refer to page 41 for IC Block Diagrams.


【MAIN BOARD】
【REEL SENSOR BOARD】
【SUB BOARD】
IC701
IC351
IC352
IC401
IC471
IC571
IC601
IC651
IC321
IC551
IC552
IC31
IC51
Note :
• All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
• All resistors are in Ω and 1/4 W or less unless otherwise specified.
• △ : internal component.
• % : indicates tolerance.
• (B+) : B+ Line
• ■ : adjustment for repair.
• Power voltage is dc 14.4V and fed with regulated dc power supply from BATT and ACC terminals.
• Voltage is dc with respect to ground under no-signal (detuned) conditions.
• no mark: FM
( ): AM
[ ]: PB
• Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
• Signal path.
: FM
: PB

6-4. PRINTED WIRING BOARDS—MAIN SECTION—



● Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D1	F-2	IC471	B-6
D31	H-5	IC551	H-6
D51	I-2	IC552	G-6
D321	G-5	IC571	D-11
D331	G-10	IC601	D-9
D332	F-10	IC651	F-10
D371	B-4	IC701	H-8
D372	B-6		
D471	D-11	(Q2)	G-2
D472	D-8	Q32	H-5
D473	E-11	Q51	I-2
D552	E-7	Q52	I-3
D553	I-5	Q171	B-3
D564	I-6	Q181	B-3
D571	D-10	Q271	B-3
D572	D-10	Q281	B-3
D573	D-10	Q331	G-10
D574	D-10	Q332	F-9
D601	D-9	Q333	F-10
D602	D-11	Q334	F-10
D603	E-11	Q335	F-10
D605	C-11	Q372	B-4
D651	I-10	Q373	B-5
D665	I-2	Q505	H-11
D666	I-3	Q551	I-6
D667	J-2	Q552	H-6
D671	J-3	Q602	B-5
D1001	J-15	Q603	D-11
D1002	J-15	Q604	C-11
D1003	J-15	Q606	E-10
D1004	J-15	Q622	I-5
D1005	J-15	Q623	J-4
D1006	H-14	Q624	I-10
		Q625	I-11
IC31	H-4	Q626	H-11
(IC51)	H-3	Q627	H-11
IC321	G-4	Q998	E-7
IC351	D-4	Q999	F-3
IC352	C-3	Q1001	J-14
IC401	F-6	Q1002	J-14

( ) : E model only

Note :

- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▨ : Pattern on the side which is seen. (The other layer's patterns are not indicated.)

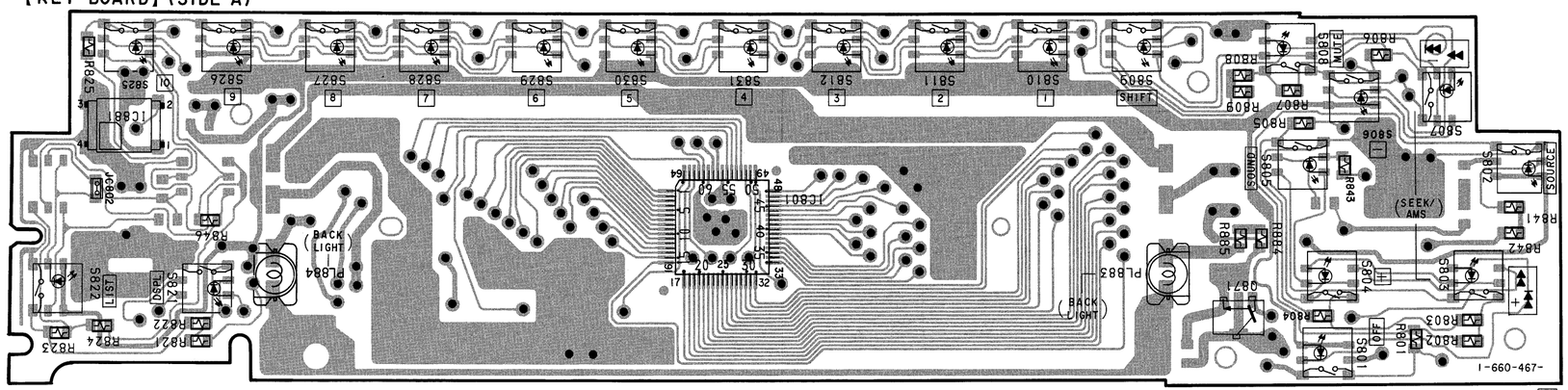
6-5. PRINTED WIRING BOARD—PANEL SECTION—

● Semiconductor Location

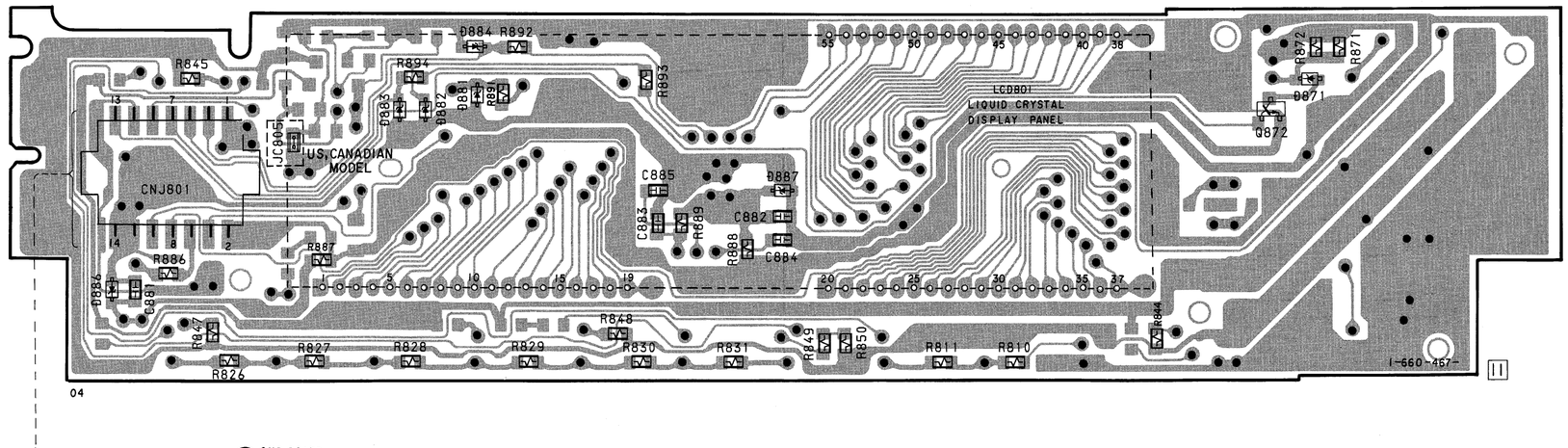
Ref. No.	Location
D871	E-9
D881	E-4
D882	E-4
D883	E-3
D884	E-4
D886	F-2
D887	E-6
IC801	C-6
IC881	B-2
Q871	C-9
Q872	E-9

Note :
- ● : Through hole.
- ▨ : Pattern on the side which is seen. (The other layer's patterns are not indicated.)

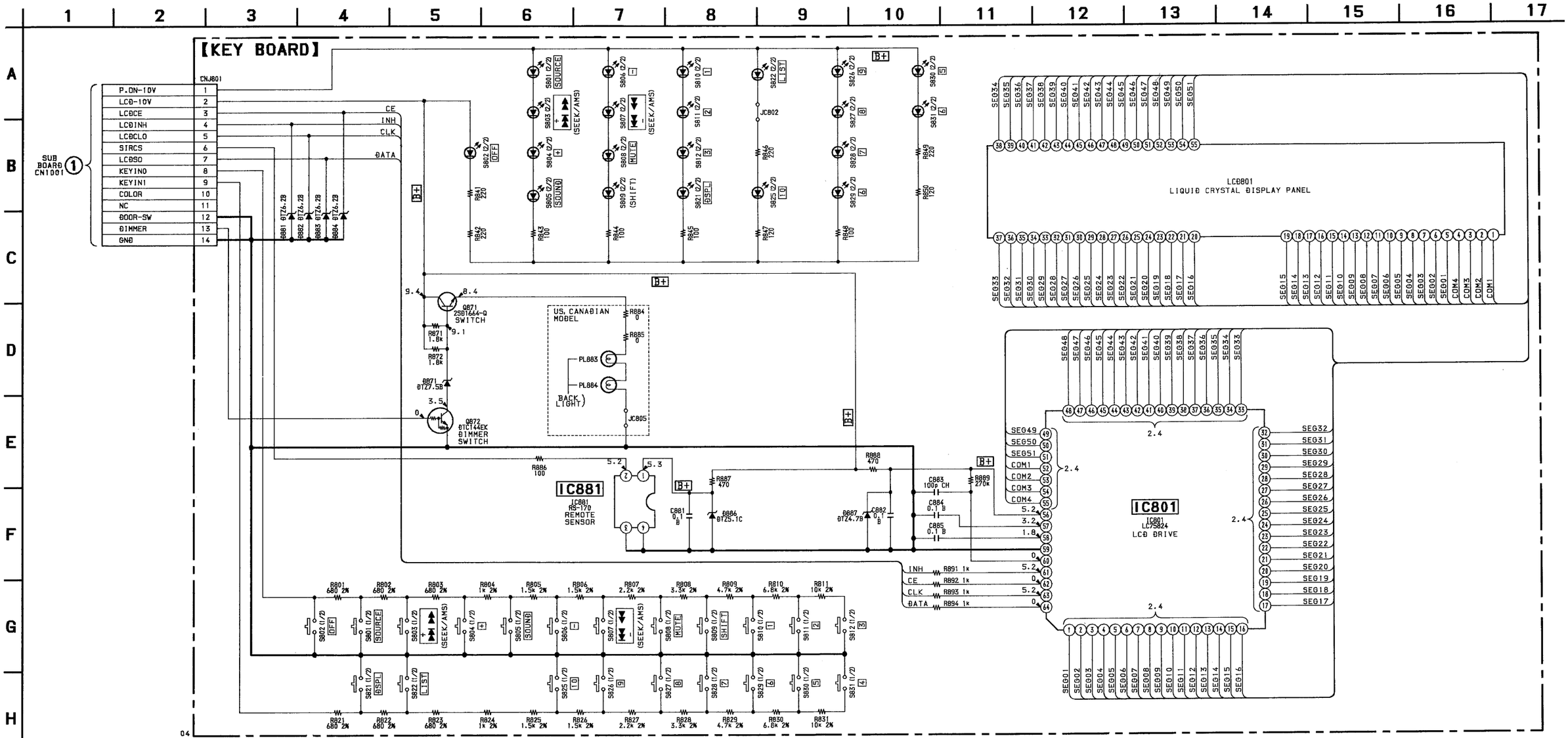
【KEY BOARD】(SIDE A)



【KEY BOARD】(SIDE B)



6-6. SCHEMATIC DIAGRAM—PANEL SECTION—

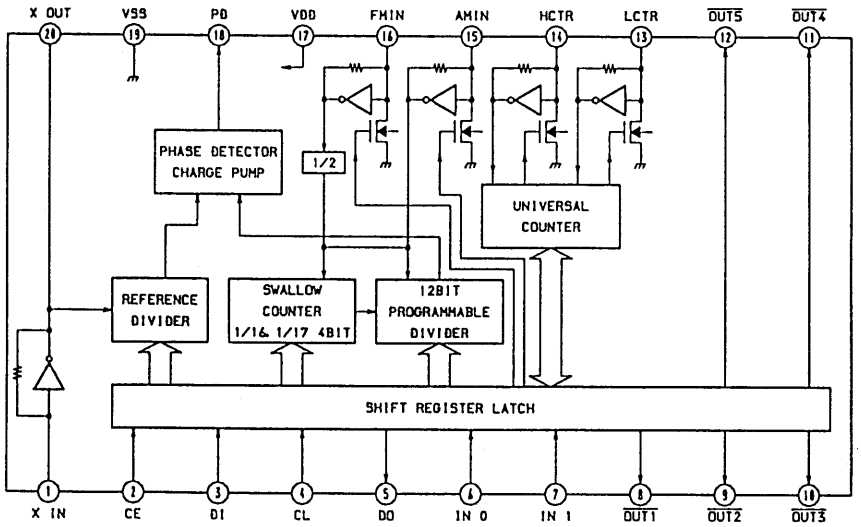


Note :

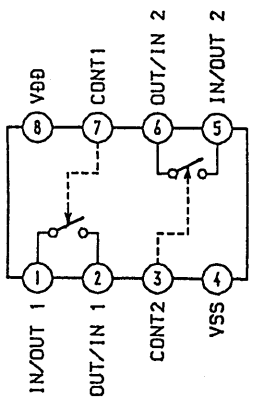
- All capacitors are in μF unless otherwise noted. pF : $\mu\mu$F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.
- B+ : B+ Line
- Power voltage is dc 14.4V and fed with regulated dc power supply from BATT and ACC terminals.
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
- no mark: FM
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.

• **IC Block Diagrams**

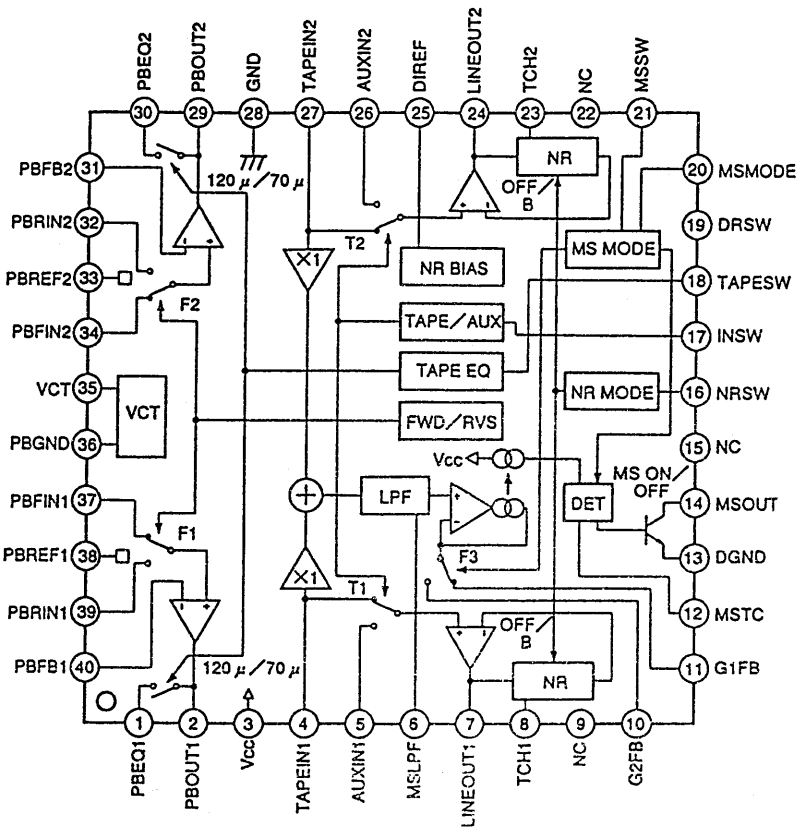
IC31 LC7216M



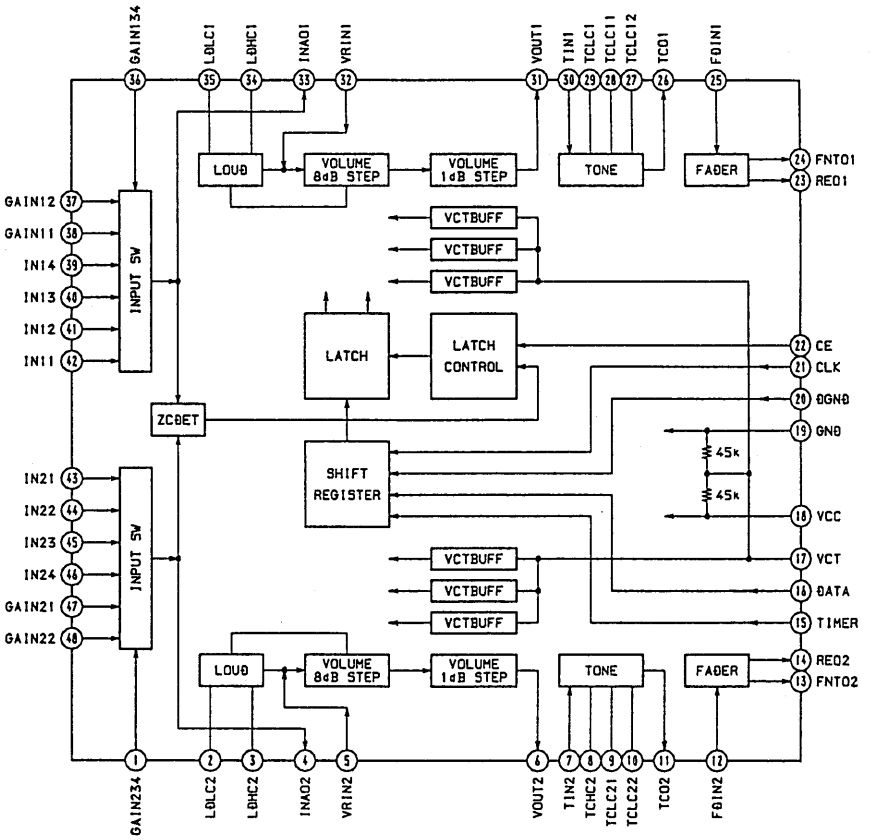
IC51 TC4W66F (E model)



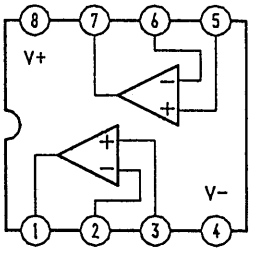
IC321 CXA2510Q



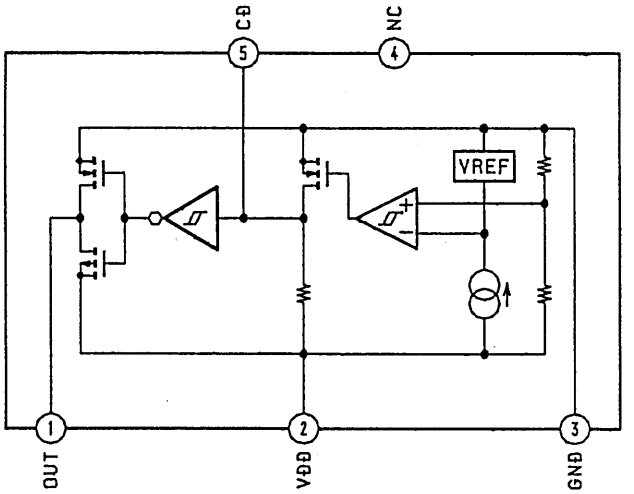
IC351 CXA1946AQ



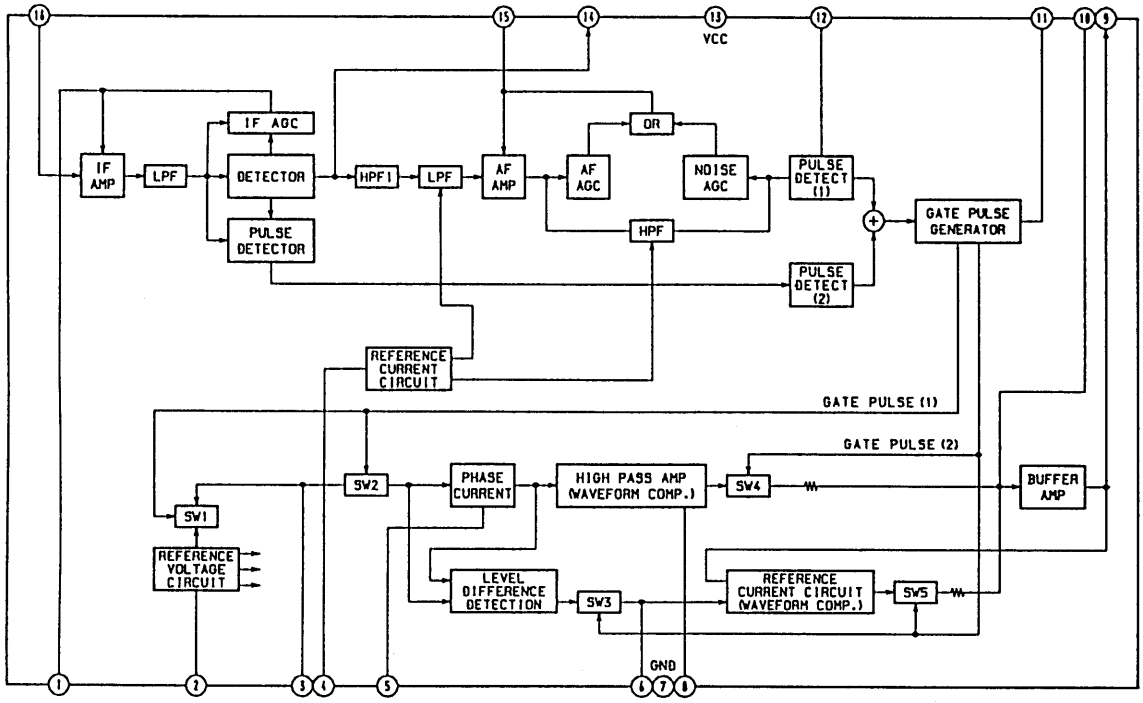
IC352 NJM4580E-D



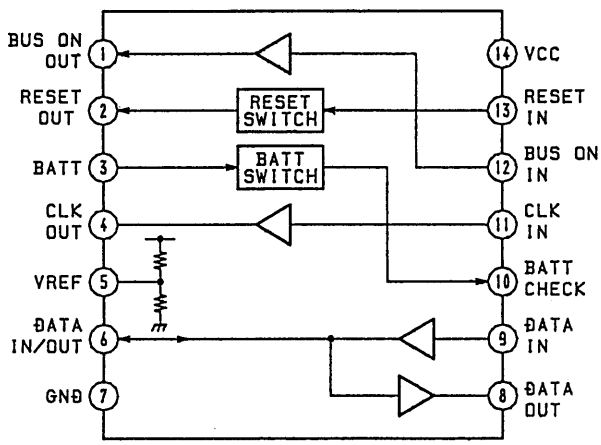
IC552 RN5VD23AA



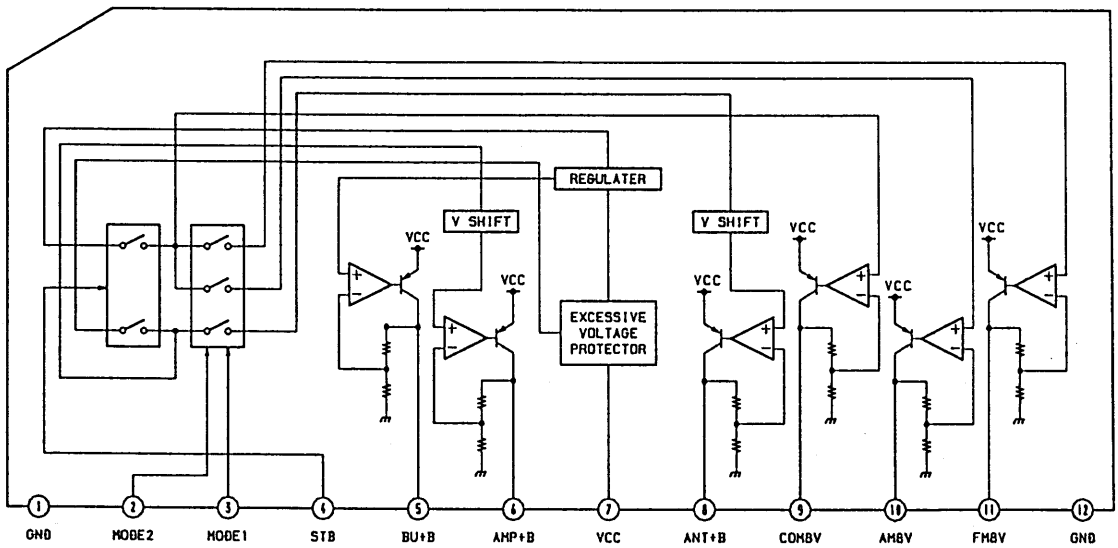
IC401 HA12181



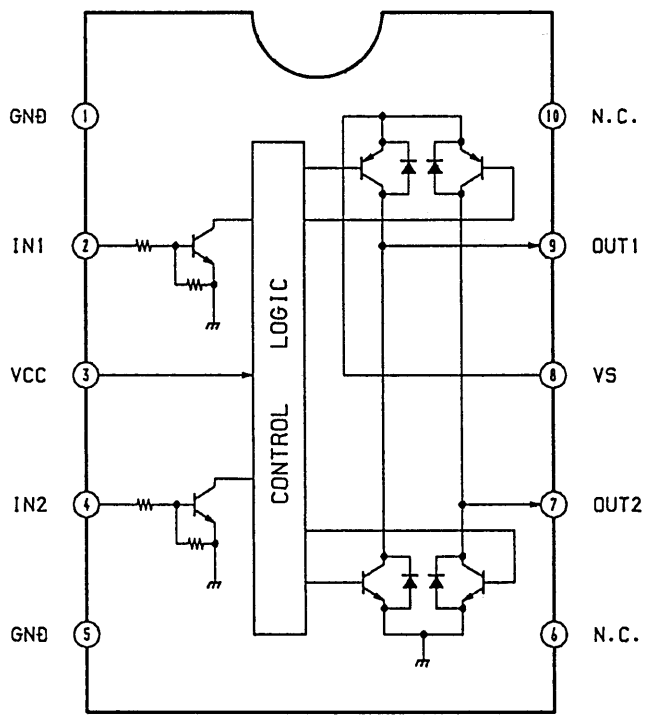
IC571 MM1175XFF



IC601 BA3918



IC651 LB1638M

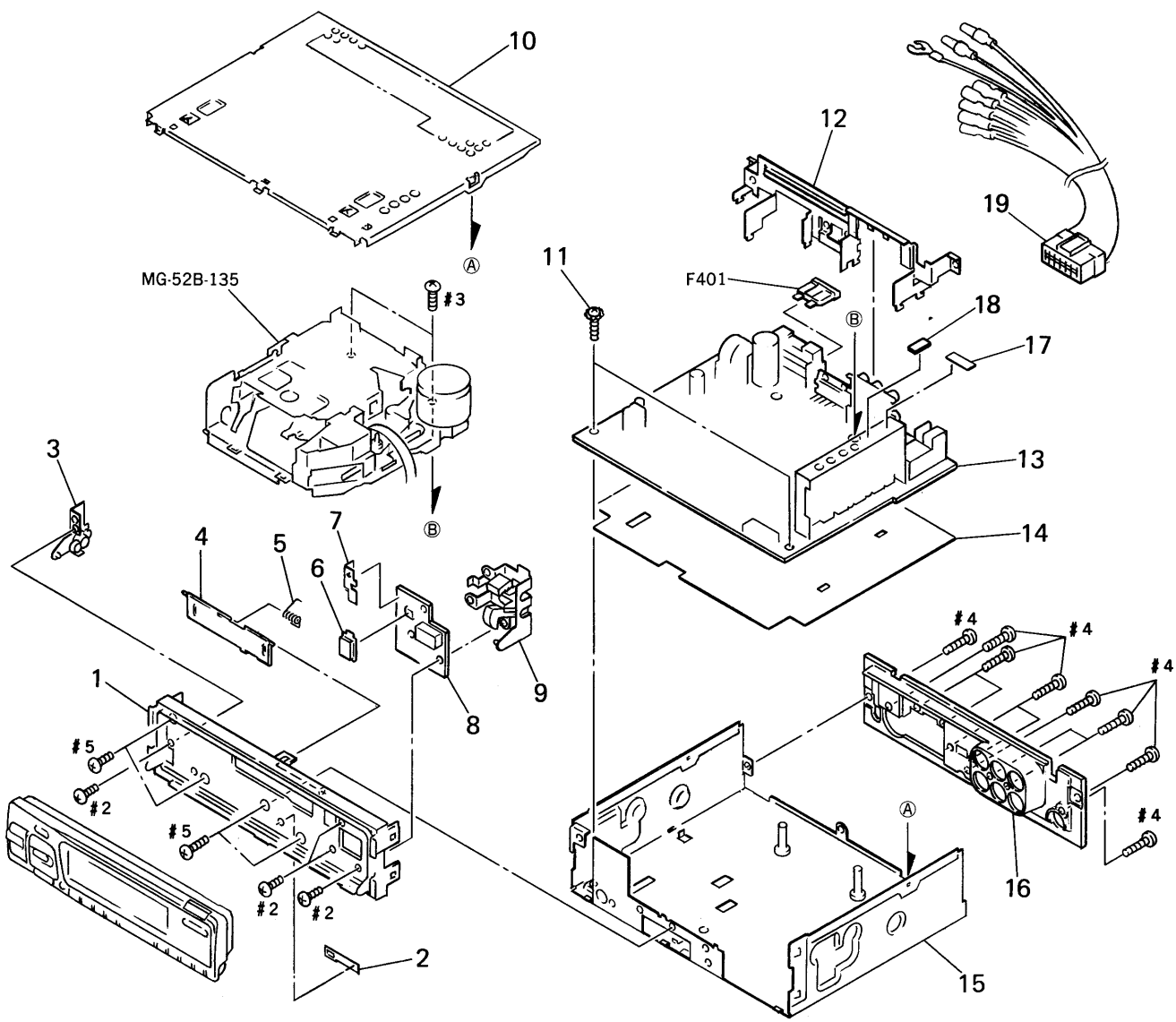


SECTION 7
EXPLODED VIEWS

NOTE:

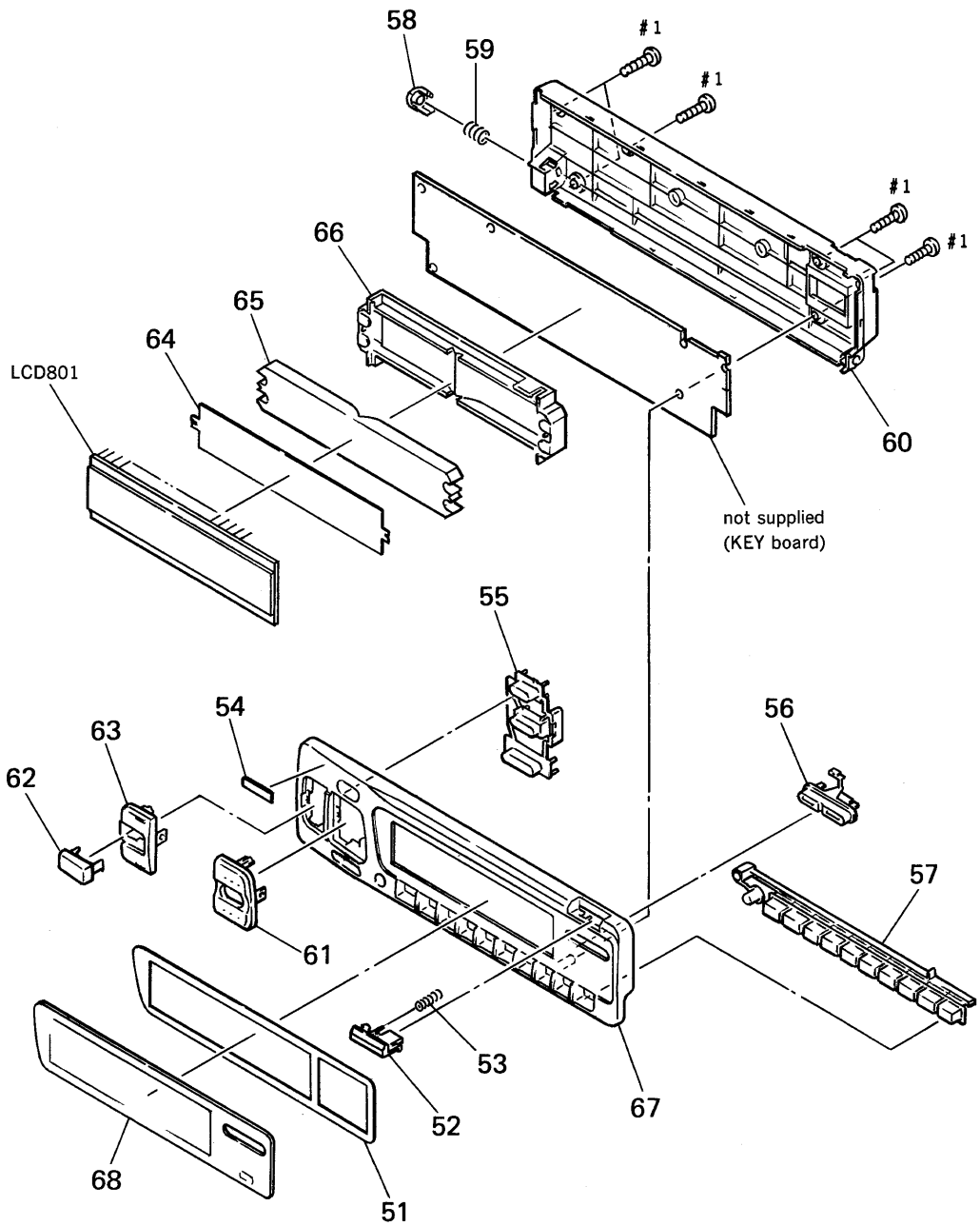
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE)... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

7-1. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
1	3-932-208-11	PANEL, SUB	
2	X-3371-545-1	SPRING (SWITCH) ASSY	
3	A-3291-624-A	SHAFT ASSY	
4	3-932-205-21	DOOR, CASSETTE (US, Canadian)	
4	3-932-205-31	DOOR, CASSETTE (E)	
5	3-913-076-01	SPRING (C DOOR), TORSION	
6	3-932-223-01	BUTTON (EJECT)	
7	3-932-224-11	PLATE (C DOOR), LIGHT GUIDE	
* 8	1-660-465-11	SUB BOARD	
9	X-3371-543-1	LOCK (SHAFT) ASSY	
* 10	X-3371-546-1	COVER ASSY	
11	3-915-923-01	SCREW, GROUND POINT	
* 12	3-932-212-11	BRACKET (IC)	
* 13	A-3309-147-A	MAIN BOARD, COMPLETE (US, Canadian)	
* 13	A-3309-148-A	MAIN BOARD, COMPLETE (E)	
* 14	3-932-206-11	INSULATOR (US, Canadian)	
* 14	3-932-206-21	INSULATOR (E)	
* 15	X-3371-542-1	CHASSIS ASSY	
* 16	3-932-210-01	HEAT SINK	
* 17	3-355-209-01	PLATE (B), GROUND	
18	9-911-840-XX	CUSHION (U)	
19	1-776-207-11	CORD (WITH CONNECTOR)	
F401	1-532-982-11	FUSE (BLADE TYPE) (AUTO FUSE) 15A	

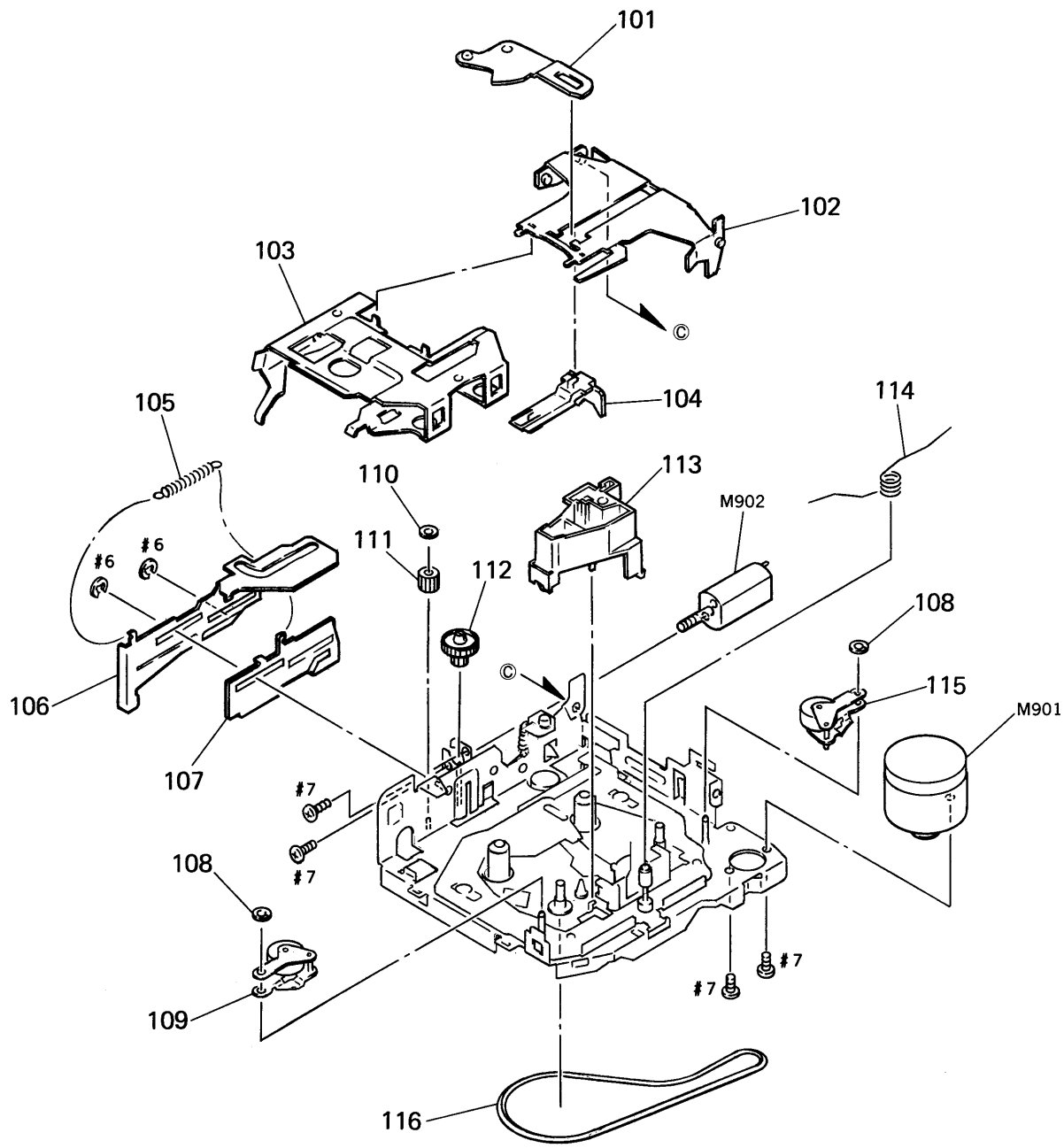
7-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	3-934-279-01	SHEET (LCD), ADHESIVE	
52	3-932-219-01	BUTTON (OPEN)	
53	3-932-225-01	SPRING (OPEN)	
54	3-904-194-01	EMBLEM (NO. 2.5), SONY	
55	3-932-216-01	BUTTON (O.S.M)	
56	3-932-218-11	BUTTON (D/L T/A)	
57	3-932-217-01	BUTTON (1-10) (US, Canadian)	
57	3-932-217-11	BUTTON (1-10) (E)	
58	3-932-239-01	BEARING (RELEASE)	
59	3-932-240-01	SPRING (RELEASE)	
60	3-932-207-01	PANEL, FRONT BACK (US, Canadian)	
60	3-932-207-11	PANEL, FRONT BACK (E)	

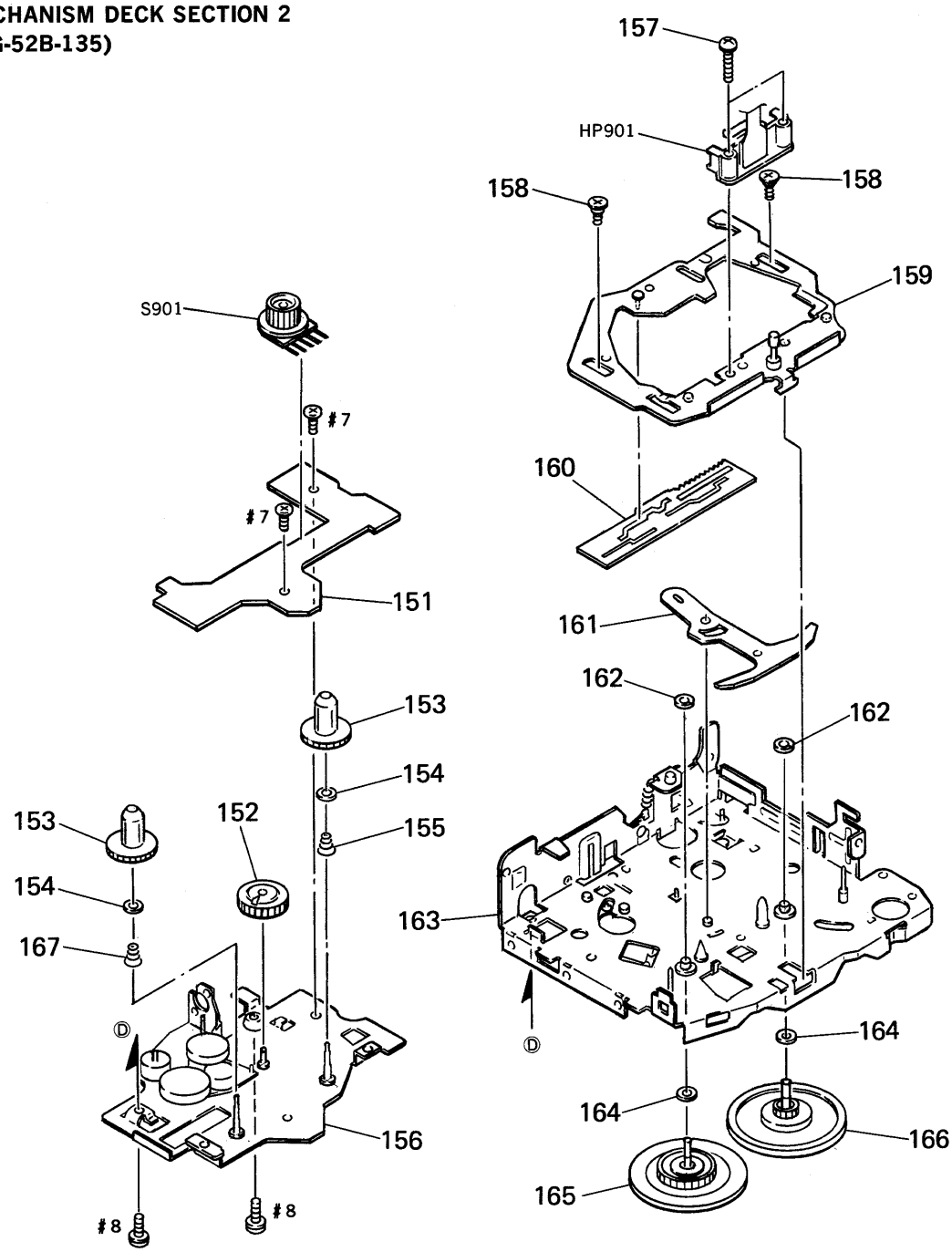
Ref. No.	Part No.	Description	Remark
61	3-932-215-01	BUTTON (+.-)	
62	3-932-214-01	BUTTON (SOURCE)	
63	3-932-213-01	BUTTON (S/A)	
* 64	3-932-221-01	SHEET (REFLECTOR)	
* 65	3-932-220-01	PLATE (LCD), LIGHT GUIDE	
* 66	3-932-222-01	HOLDER (LCD)	
67	3-932-241-31	PANEL, FRONT (US, Canadian)	
67	3-932-241-41	PANEL, FRONT (E)	
68	3-932-242-31	PLATE (LCD), INDICATION (US, Canadian)	
68	3-932-242-41	PLATE (LCD), INDICATION (E)	
LCD801	1-801-193-11	DISPLAY PANEL, LIQUID CRYSTAL	

7-3. MECHANISM DECK SECTION 1 (MG-52B-135)



Ref. No.	Part No.	Description	Remark
* 101	3-933-347-01	ARM (SUCTION)	
102	3-933-340-01	HANGER	
103	3-928-671-01	HOUSING	
104	3-933-346-01	CATCHER	
105	3-933-341-01	SPRING (LEVER LDG), TENSION	
106	3-928-674-01	LEVER (LDG-B)	
* 107	3-928-673-01	LEVER (LDG-A)	
108	3-321-813-01	WASHER, COTTER POLYETHYLENE	
109	X-3370-977-1	LEVER (PINCH R) ASSY	
110	3-341-753-11	WASHER, POLYETHYLENE	
111	3-933-335-01	GEAR (LDG-FT)	
112	3-928-667-01	GEAR (LDG-A)	
113	3-933-344-01	GUIDE (C)	
114	3-928-670-01	SPRING (PINCH PRESS)	
115	X-3370-976-1	LEVER (PINCH F) ASSY	
116	3-928-675-01	BELT (52)	
M901	A-3291-644-A	MOTOR ASSY, MAIN	
M902	A-3291-643-A	MOTOR ASSY, SUB	

7-4. MECHANISM DECK SECTION 2 (MG-52B-135)



Ref. No.	Part No.	Description	Remark
151	1-660-169-11	REEL SENSOR BOARD	
152	3-933-333-01	GEAR (LDG-E)	
153	3-933-345-01	GEAR, REEL	
154	3-701-437-01	POLY-SLIDER (A)	
155	3-933-339-01	SPRING (B-T-F), CONE COIL	
156	X-3371-710-1	CHASSIS (S) ASSY	
157	3-927-100-01	SCREW (+PS 2X10), SPECIAL	
158	3-933-338-01	SCREW (HP), STEP	
* 159	X-3371-712-1	PLATE SUB ASSY, HEAD	
160	3-928-668-01	LEVER (MODE)	

Ref. No.	Part No.	Description	Remark
161	3-928-669-01	LEVER (PINCH SELECTION)	
162	3-364-151-01	WASHER	
* 163	X-3371-705-1	CHASSIS (M) ASSY (B)	
164	3-701-437-21	WASHER	
165	A-3291-646-A	CLUTCH (FR) ASSY	
166	3-930-932-01	FLYWHEEL (F) (SEF)	
167	3-933-337-01	SPRING (B-T-R), CONE COIL	
HP901	1-500-157-21	HEAD, MAGNETIC (PLAYBACK)	
S901	1-692-885-11	SWITCH, ROTARY SLIDE (TAPE OPERATION)	

SECTION 8
ELECTRICAL PARTS LIST

KEY

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA ..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
		KEY BOARD			
		*********			
*	3-932-220-01	PLATE (LCD), LIGHT GUIDE			
*	3-932-221-01	SHEET (REFLECTOR)			
*	3-932-222-01	HOLDER (LCD)			
		< CAPACITOR >			
C881	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V	
C882	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V	
C883	1-163-251-11	CERAMIC CHIP	100PF	5% 50V	
C884	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V	
C885	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V	
		< CONNECTOR >			
CNJ801	1-774-945-11	PLUG, CONNECTOR 14P			
		< DIODE >			
D871	8-719-422-76	DIODE	MA8075-M		
D881	8-719-422-64	DIODE	MA8062-M		
D882	8-719-422-64	DIODE	MA8062-M		
D883	8-719-422-64	DIODE	MA8062-M		
D884	8-719-422-64	DIODE	MA8062-M		
D886	8-719-422-43	DIODE	MA8051-H		
D887	8-719-420-90	DIODE	MA8051-M		
		< IC >			
IC801	8-759-365-90	IC	LC75824W		
IC881	8-749-012-25	IC	RS-170-TU		
		< JUMPER RESISTOR >			
JC802	1-216-295-00	CONDUCTOR, CHIP		(2012)	
JC805	1-216-295-00	CONDUCTOR, CHIP		(2012)	
		< LIQUID CRYSTAL DISPLAY >			
LCD801	1-801-193-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< PILOT LAMP >			
PL883	1-517-533-21	LAMP, PILOT			
PL884	1-517-533-21	LAMP, PILOT			
		< TRANSISTOR >			
Q871	8-729-106-68	TRANSISTOR	2SD1615A-GP		
Q872	8-729-027-59	TRANSISTOR	DTC144EKA-T146		
		< RESISTOR >			
R801-803					
	1-216-647-11	METAL CHIP	680	0.5% 1/10W	
R804	1-208-437-61	METAL GLAZE	1K	2% 1/10W	
R805	1-208-441-61	METAL GLAZE	1.5K	2% 1/10W	
R806	1-208-441-61	METAL GLAZE	1.5K	2% 1/10W	
R807	1-216-659-11	METAL CHIP	2.2K	0.5% 1/10W	
R808	1-208-449-61	METAL GLAZE	3.3K	2% 1/10W	
R809	1-208-453-61	METAL GLAZE	4.7K	2% 1/10W	
R810	1-216-671-11	METAL CHIP	6.8K	0.5% 1/10W	
R811	1-208-462-61	METAL GLAZE	10K	2% 1/10W	
R821-823					
	1-216-647-11	METAL CHIP	680	0.5% 1/10W	
R824	1-208-437-61	METAL GLAZE	1K	2% 1/10W	
R825	1-208-441-61	METAL GLAZE	1.5K	2% 1/10W	
R826	1-208-441-61	METAL GLAZE	1.5K	2% 1/10W	
R827	1-216-659-11	METAL CHIP	2.2K	0.5% 1/10W	
R828	1-208-449-61	METAL GLAZE	3.3K	2% 1/10W	
R829	1-208-453-61	METAL GLAZE	4.7K	2% 1/10W	
R830	1-216-671-11	METAL CHIP	6.8K	0.5% 1/10W	
R831	1-208-462-61	METAL GLAZE	10K	2% 1/10W	
R841	1-216-033-00	METAL CHIP	220	5% 1/10W	
R842	1-216-033-00	METAL CHIP	220	5% 1/10W	(E)
R843-845					
	1-216-025-00	METAL GLAZE	100	5% 1/10W	
R846	1-216-033-00	METAL CHIP	220	5% 1/10W	
R847	1-216-027-00	METAL CHIP	120	5% 1/10W	
R848	1-216-025-00	METAL GLAZE	100	5% 1/10W	
R849	1-216-033-00	METAL CHIP	220	5% 1/10W	
R850	1-216-027-00	METAL CHIP	120	5% 1/10W	
R871	1-216-055-00	METAL GLAZE	1.8K	5% 1/10W	
R872	1-216-055-00	METAL CHIP	1.8K	5% 1/10W	
R884	1-216-295-00	CONDUCTOR, CHIP		(2012)	
R885	1-216-295-00	CONDUCTOR, CHIP		(2012)	

KEY **MAIN**

Ref. No.	Part No.	Description			Remark
R886	1-216-025-00	METAL GLAZE	100	5%	1/10W
R887	1-216-041-00	METAL CHIP	470	5%	1/10W
R888	1-216-041-00	METAL CHIP	470	5%	1/10W
R889	1-216-107-00	METAL CHIP	270K	5%	1/10W
R891-894					
	1-208-437-61	METAL GLAZE	1K	2%	1/10W
		< SWITCH >			
S801	1-762-619-11	SWITCH, KEY BOARD (WITH LED)			(SOURCE)
S802	1-762-619-11	SWITCH, KEY BOARD (WITH LED)			(OFF)
S803	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (+ ▶▶| ▶▶)			(SEEK/AMS))
S804	1-762-619-11	SWITCH, KEY BOARD (WITH LED)			(+)
S805	1-762-619-11	SWITCH, KEY BOARD (WITH LED)			(SOUND)
S806	1-762-619-11	SWITCH, KEY BOARD (WITH LED)			(-)
S807	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (- |◀◀ ◀◀)			(SEEK/AMS))
S808	1-762-619-11	SWITCH, KEY BOARD (WITH LED)			(MUTE)
S809	1-762-619-11	SWITCH, KEY BOARD (WITH LED)			(SHIFT)
S810	1-762-619-11	SWITCH, KEY BOARD (WITH LED)			(1)
S811	1-762-619-11	SWITCH, KEY BOARD (WITH LED)			(2)
S812	1-762-619-11	SWITCH, KEY BOARD (WITH LED)			(3)
S821	1-762-619-11	SWITCH, KEY BOARD (WITH LED)			(DSPL)
S822	1-762-619-11	SWITCH, KEY BOARD (WITH LED)			(LIST)
S825	1-762-619-11	SWITCH, KEY BOARD (WITH LED)			(10)
S826	1-762-619-11	SWITCH, KEY BOARD (WITH LED)			(9)
S827	1-762-619-11	SWITCH, KEY BOARD (WITH LED)			(8)
S828	1-762-619-11	SWITCH, KEY BOARD (WITH LED)			(7)
S829	1-762-619-11	SWITCH, KEY BOARD (WITH LED)			(6)
S830	1-762-619-11	SWITCH, KEY BOARD (WITH LED)			(5)
S831	1-762-619-11	SWITCH, KEY BOARD (WITH LED)			(4)
**********					
*	A-3309-147-A	MAIN BOARD, COMPLETE (US, Canadian)			
*	A-3309-148-A	MAIN BOARD, COMPLETE (E)			
		**********			
*	3-932-212-11	BRACKET (IC)			
		< BUZZER >			
BZ601	1-504-920-11	BUZZER			
		< CAPACITOR >			
C1	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C2	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C3	1-126-933-11	ELECT	100uF	20%	16V
C5	1-126-933-11	ELECT	100uF	20%	16V
C7	1-126-933-11	ELECT	100uF	20%	16V
C9	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C10	1-164-232-11	CERAMIC CHIP	0.01uF		50V

Ref. No.	Part No.	Description			Remark
C11	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C31	1-126-157-11	ELECT	10uF	20%	16V
C36	1-164-346-11	CERAMIC CHIP	1uF		16V
C38-41					
	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C42	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C43	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C51	1-164-346-11	CERAMIC CHIP	1uF		16V
C52	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C53	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C54	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C57	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V (E)
C58	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V (E)
C61	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V (E)
C61	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V (US, Canadian)
C71	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V (E)
C71	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V (US, Canadian)
C122	1-130-469-00	MYLAR	680PF	5%	50V
C123	1-130-469-00	MYLAR	680PF	5%	50V
C124	1-136-153-00	FILM	0.01uF	5%	50V
C125	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C126	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C127	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C128	1-126-163-11	ELECT	4.7uF	20%	50V
C151	1-126-163-11	ELECT	4.7uF	20%	50V
C152	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C153	1-124-234-00	ELECT	22uF	20%	16V
C155	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C156	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C157	1-126-157-11	ELECT	10uF	20%	16V
C158	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C159	1-126-157-11	ELECT	10uF	20%	16V
C160	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C161	1-126-163-11	ELECT	4.7uF	20%	50V
C162	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C171	1-126-163-11	ELECT	4.7uF	20%	50V
C172	1-164-346-11	CERAMIC CHIP	1uF		16V
C176	1-136-165-00	FILM	0.1uF	5%	50V
C177	1-136-165-00	FILM	0.1uF	5%	50V
C181	1-126-163-11	ELECT	4.7uF	20%	50V
C182	1-164-346-11	CERAMIC CHIP	1uF		16V
C186	1-136-165-00	FILM	0.1uF	5%	50V
C187	1-136-165-00	FILM	0.1uF	5%	50V
C222	1-130-469-00	MYLAR	680PF	5%	50V

Ref. No.	Part No.	Description			Remark
C223	1-130-469-00	MYLAR	680PF	5%	50V
C224	1-136-153-00	FILM	0.01uF	5%	50V
C225	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C226	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C227	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C228	1-126-163-11	ELECT	4.7uF	20%	50V
C251	1-126-163-11	ELECT	4.7uF	20%	50V
C252	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C253	1-124-234-00	ELECT	22uF	20%	16V
C255	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C256	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C257	1-126-157-11	ELECT	10uF	20%	16V
C258	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C259	1-126-157-11	ELECT	10uF	20%	16V
C260	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C261	1-126-163-11	ELECT	4.7uF	20%	50V
C262	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C271	1-126-163-11	ELECT	4.7uF	20%	50V
C272	1-164-346-11	CERAMIC CHIP	1uF		16V
C276	1-136-165-00	FILM	0.1uF	5%	50V
C277	1-136-165-00	FILM	0.1uF	5%	50V
C281	1-126-163-11	ELECT	4.7uF	20%	50V
C282	1-164-346-11	CERAMIC CHIP	1uF		16V
C286	1-136-165-00	FILM	0.1uF	5%	50V
C287	1-136-165-00	FILM	0.1uF	5%	50V
C322	1-124-584-00	ELECT	100uF	20%	10V
C323	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C324	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C325	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C328	1-126-157-11	ELECT	10uF	20%	16V
C329	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C330	1-124-234-00	ELECT	22uF	20%	16V
C331	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C332	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C333	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C334	1-126-157-11	ELECT	10uF	20%	16V
C336	1-164-346-11	CERAMIC CHIP	1uF		16V
C337	1-126-934-11	ELECT	220uF	20%	16V
C338	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C351	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C352	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C353	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C354	1-124-234-00	ELECT	22uF	20%	16V
C355	1-124-584-00	ELECT	100uF	20%	10V
C356	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C357	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C358	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C371	1-126-301-11	ELECT	1uF	20%	50V
C372	1-126-157-11	ELECT	10uF	20%	16V

Ref. No.	Part No.	Description			Remark
C431	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C432	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C433	1-126-157-11	ELECT	10uF	20%	16V
C434	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C435	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C437	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C438	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V
C439	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C440	1-126-163-11	ELECT	4.7uF	20%	50V
C441	1-126-301-11	ELECT	1uF	20%	50V
C442	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C443	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C445	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C446	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C447	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C448	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C451	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C452	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C454-457	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C471	1-111-233-11	ELECT	5600uF	20%	16V
C472	1-164-065-11	CERAMIC CHIP	4.7uF		16V
C473	1-164-065-11	CERAMIC CHIP	4.7uF		16V
C475	1-163-077-00	CERAMIC CHIP	0.1uF		50V
C476	1-163-077-00	CERAMIC CHIP	0.1uF		50V
C477	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C478	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C479	1-124-589-11	ELECT	47uF	20%	16V
C480	1-126-157-11	ELECT	10uF	20%	16V
C501	1-163-234-11	CERAMIC CHIP	20PF	5%	50V
C502	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C503	1-164-346-11	CERAMIC CHIP	1uF		16V
C552	1-125-705-11	CAPACITOR	0.22F		5.5V
C553	1-126-925-11	ELECT	470uF	20%	10V
C556-558	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C571	1-164-346-11	CERAMIC CHIP	1uF		16V
C572	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C603	1-126-163-11	ELECT	4.7uF	20%	50V
C604-606	1-126-157-11	ELECT	10uF	20%	16V
C608	1-126-157-11	ELECT	10uF	20%	16V
C609	1-126-157-11	ELECT	10uF	20%	16V
C621	1-164-346-11	CERAMIC CHIP	1uF		16V
C667	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C668	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C901	1-164-159-21	CERAMIC CHIP	0.1uF		50V (E)
C902	1-164-159-21	CERAMIC CHIP	0.1uF		50V (E)

MAIN

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
CNJ571	1-580-907-31	PLUG, CONNECTOR (BUS CONTROL IN)	
CNP301	1-766-260-11	CONNECTOR, FFC/FPC (ZIF) 7P	
* CNP331	1-506-995-11	PIN, CONNECTOR (PC BOARD) 13P	
CNP471	1-774-701-11	PIN, CONNECTOR 16P	
CNP851	1-770-409-11	CONNECTOR, BOARD TO BOARD 16P	
		< DISCHARGE GAP >	
CP1	1-519-504-11	GAP, DISCHARGE	
		< DIODE >	
D1	8-719-040-04	DIODE MA721WK-(TX)	
D31	8-719-422-49	DIODE MA8056-L	
D51	8-719-422-97	DIODE MA8091-M	
D321	8-719-991-33	DIODE 1SS133T-77	
D331	8-719-422-97	DIODE MA8091-M	
D332	8-719-991-33	DIODE 1SS133T-77	
D371	8-719-422-12	DIODE MA8039	
D372	8-719-404-46	DIODE MA110	
D471	8-719-049-38	DIODE 1N5404TU	
D472	8-719-422-64	DIODE MA8062-M	
D473	8-719-017-98	DIODE MA8200-TX	
D552	8-719-041-79	DIODE MA721WA-TX	
D553	8-719-400-20	DIODE MA152WA	
D564	8-719-404-46	DIODE MA110	
D571	8-719-422-64	DIODE MA8062-M	
D572	8-719-017-62	DIODE MA8068-L-TX	
D573	8-719-422-64	DIODE MA8062-M	
D574	8-719-422-64	DIODE MA8062-M	
D601	8-719-991-33	DIODE 1SS133T-77	
D602	8-719-022-90	DIODE MA8160M	
D603	8-719-420-14	DIODE MA8082-M	
D605	8-719-404-46	DIODE MA110	
D651	8-719-423-21	DIODE MA8110-L-TX	
D665	8-719-422-64	DIODE MA8062-M	
D666	8-719-422-64	DIODE MA8062-M	
D667	8-719-422-64	DIODE MA8062-M	
D671	8-719-422-64	DIODE MA8062-M	
		< FUSE >	
F401	1-532-982-11	FUSE (BLADE TYPE) (AUTO FUSE) 15A	
		< IC >	
IC31	8-759-823-81	IC LC7216M	
IC51	8-759-242-66	IC TC4W66F (E)	
IC321	8-752-075-58	IC CXA2510Q-T4	
IC351	8-752-075-48	IC CXA1946AQ-T6	
IC352	8-759-711-85	IC NJM4580E-D	
IC401	8-759-367-11	IC HA12181FP-EL	
IC471	8-759-369-41	IC HA13155	
IC551	8-759-363-81	IC XC61AN4002PR	
IC552	8-759-344-91	IC RN5VD23AA-TL	
IC571	8-759-096-16	IC MM1175XFF	
IC601	8-759-347-49	IC BA3918-V2	
IC651	8-759-823-87	IC LB1638M	
IC701	8-759-385-88	IC uPD78058GC-178-3B9	
		< JACK >	
J1	1-764-808-11	JACK (ANTENNA)	
J451	1-774-700-11	JACK, PIN 6P (BUS AUDIO IN, LINE OUT REAR, LINE OUT FRONT)	
J561	1-566-822-41	JACK (REMOTE IN)	
		< JUMPER RESISTOR >	
JC1-14	1-216-295-00	CONDUCTOR, CHIP (2012)	
JC101-142	1-216-296-00	CONDUCTOR, CHIP (3216)	
		< COIL >	
L1	1-414-146-31	INDUCTOR 2.2uH	
L2	1-414-146-31	INDUCTOR 2.2uH	
L31	1-410-509-11	INDUCTOR 10uH	
L471	1-411-669-11	COIL, CHOKE	
L501	1-410-204-31	INDUCTOR CHIP 10uH	
		< TRANSISTOR >	
Q2	8-729-900-53	TRANSISTOR DTC114EK (E)	
Q32	8-729-106-68	TRANSISTOR 2SD1615A-GP	
Q51	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q52	8-729-021-94	TRANSISTOR 2SK1657-T1B	
Q171	8-729-920-21	TRANSISTOR DTC314TKH04	
Q181	8-729-920-21	TRANSISTOR DTC314TKH04	
Q271	8-729-920-21	TRANSISTOR DTC314TKH04	
Q281	8-729-920-21	TRANSISTOR DTC314TKH04	
Q331	8-729-015-11	TRANSISTOR 2SD1802FAST-TL	
Q332	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q333	8-729-900-53	TRANSISTOR DTC114EK	
Q334	8-729-106-60	TRANSISTOR 2SB1115A	
Q335	8-729-900-53	TRANSISTOR DTC114EK	
Q372	8-729-424-52	TRANSISTOR UN211F-TX	
Q373	8-729-144-85	TRANSISTOR 2SK1133	
Q505	8-729-900-53	TRANSISTOR DTC114EK	
Q551	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q552	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q602	8-729-021-94	TRANSISTOR 2SK1657-T1B	
Q603	8-729-900-53	TRANSISTOR DTC114EK	

Ref. No.	Part No.	Description			Remark
Q604	8-729-424-18	TRANSISTOR	UN2113		
Q606	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q622	8-729-900-53	TRANSISTOR	DTC114EK		
Q623	8-729-106-60	TRANSISTOR	2SB1115A		
Q624	8-729-030-18	TRANSISTOR	2SD2525		
Q625	8-729-030-18	TRANSISTOR	2SD2525		
Q626	8-729-027-23	TRANSISTOR	DTA114EKA-T146		
Q627	8-729-900-53	TRANSISTOR	DTC114EK		
Q998	8-729-027-60	TRANSISTOR	DTC144TKA-T146		
Q999	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
		< RESISTOR >			
R1	1-216-037-00	METAL CHIP	330	5%	1/10W
R2	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R5	1-216-073-00	METAL CHIP	10K	5%	1/10W (E)
R6	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R7	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R8	1-216-041-00	METAL CHIP	470	5%	1/10W
R9	1-216-073-00	METAL CHIP	10K	5%	1/10W
R10	1-216-081-00	METAL CHIP	22K	5%	1/10W
R21	1-216-073-00	METAL CHIP	10K	5%	1/10W
R31	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R32	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R33	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R34	1-216-073-00	METAL CHIP	10K	5%	1/10W
R51	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R52	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R53	1-216-089-00	METAL GLAZE	47K	5%	1/10W (E)
R54	1-216-073-00	METAL CHIP	10K	5%	1/10W
R56	1-216-073-00	METAL CHIP	10K	5%	1/10W (E)
R61	1-249-417-11	CARBON	1K	5%	1/4W (E)
R61	1-249-431-11	CARBON	15K	5%	1/4W (US, Canadian)
R71	1-249-417-11	CARBON	1K	5%	1/4W (E)
R71	1-249-431-11	CARBON	15K	5%	1/4W (US, Canadian)
R123	1-216-109-00	METAL CHIP	330K	5%	1/10W
R124	1-216-077-00	METAL CHIP	15K	5%	1/10W
R125	1-216-079-00	METAL CHIP	18K	5%	1/10W
R127	1-216-057-00	METAL CHIP	2.2K	5%	1/10W (US, Canadian)
R127	1-216-061-00	METAL CHIP	3.3K	5%	1/10W (E)
R128	1-216-073-00	METAL CHIP	10K	5%	1/10W
R151	1-216-073-00	METAL CHIP	10K	5%	1/10W
R154	1-216-071-00	METAL CHIP	8.2K	5%	1/10W (US, Canadian)
R154	1-216-075-00	METAL CHIP	12K	5%	1/10W (E)
R171	1-216-033-00	METAL CHIP	220	5%	1/10W
R172	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R173	1-249-429-11	CARBON	10K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R174	1-216-081-00	METAL CHIP	22K	5%	1/10W
R176	1-249-385-11	CARBON	2.2	5%	1/6W
R177	1-249-385-11	CARBON	2.2	5%	1/6W
R181	1-216-033-00	METAL CHIP	220	5%	1/10W
R182	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R183	1-249-429-11	CARBON	10K	5%	1/4W
R184	1-216-081-00	METAL CHIP	22K	5%	1/10W
R186	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R187	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R223	1-216-109-00	METAL CHIP	330K	5%	1/10W
R224	1-216-077-00	METAL CHIP	15K	5%	1/10W
R225	1-216-079-00	METAL CHIP	18K	5%	1/10W
R226	1-216-079-00	METAL CHIP	18K	5%	1/10W
R227	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W (US, Canadian)
R227	1-216-210-00	METAL GLAZE	3.3K	5%	1/8W (E)
R228	1-216-073-00	METAL CHIP	10K	5%	1/10W
R251	1-216-073-00	METAL CHIP	10K	5%	1/10W
R254	1-216-071-00	METAL CHIP	8.2K	5%	1/10W (US, Canadian)
R254	1-216-075-00	METAL CHIP	12K	5%	1/10W (E)
R271	1-216-033-00	METAL CHIP	220	5%	1/10W
R272	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R273	1-249-429-11	CARBON	10K	5%	1/4W
R274	1-216-081-00	METAL CHIP	22K	5%	1/10W
R276	1-249-385-11	CARBON	2.2	5%	1/6W
R277	1-249-385-11	CARBON	2.2	5%	1/6W
R281	1-216-033-00	METAL CHIP	220	5%	1/10W
R282	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R283	1-249-429-11	CARBON	10K	5%	1/4W
R284	1-216-081-00	METAL CHIP	22K	5%	1/10W
R286	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R287	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R321	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R322	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R323	1-216-113-00	METAL CHIP	470K	5%	1/10W
R325	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R331	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R332	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R333	1-216-073-00	METAL CHIP	10K	5%	1/10W
R334	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R335	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R336	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R351	1-216-081-00	METAL CHIP	22K	5%	1/10W
R352	1-216-081-00	METAL CHIP	22K	5%	1/10W
R353	1-216-073-00	METAL CHIP	10K	5%	1/10W
R354	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R355	1-216-073-00	METAL CHIP	10K	5%	1/10W
R356	1-216-073-00	METAL CHIP	10K	5%	1/10W

MAIN

Ref. No.	Part No.	Description			Remark
R371	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R431	1-216-001-00	METAL CHIP	10	5%	1/10W
R432	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R433	1-216-081-00	METAL CHIP	22K	5%	1/10W
R434	1-216-107-00	METAL CHIP	270K	5%	1/10W
R436	1-216-075-00	METAL CHIP	12K	5%	1/10W
R437	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R438	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R439	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R451	1-216-073-00	METAL CHIP	10K	5%	1/10W
R452	1-216-073-00	METAL CHIP	10K	5%	1/10W
R453	1-216-049-11	METAL GLAZE	1K	5%	1/10W (US, Canadian)
R453	1-216-061-00	METAL CHIP	3.3K	5%	1/10W (E)
R454	1-216-049-11	METAL GLAZE	1K	5%	1/10W (US, Canadian)
R454	1-216-061-00	METAL CHIP	3.3K	5%	1/10W (E)
R472	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R473	1-249-421-11	CARBON	2.2K	5%	1/4W
R474	1-216-073-00	METAL CHIP	10K	5%	1/10W
R475	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R476	1-216-081-00	METAL CHIP	22K	5%	1/10W
R528	1-216-037-00	METAL CHIP	330	5%	1/10W
R551	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R552	1-208-806-11	METAL GLAZE	10K	0.50%	1/10W
R553	1-208-806-11	METAL GLAZE	10K	0.50%	1/10W
R557	1-216-113-00	METAL CHIP	470K	5%	1/10W
R561	1-216-174-00	METAL GLAZE	100	5%	1/8W
R562	1-216-174-00	METAL GLAZE	100	5%	1/8W
R571	1-216-166-00	METAL GLAZE	47	5%	1/8W
R572	1-216-073-00	METAL CHIP	10K	5%	1/10W
R573	1-216-025-00	METAL GLAZE	100	5%	1/10W
R574	1-216-174-00	METAL GLAZE	100	5%	1/8W
R601	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R602	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W
R604	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R607	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R608	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R609	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W
R610	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W
R622	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R623	1-216-073-00	METAL CHIP	10K	5%	1/10W
R624	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R625	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R626	1-216-037-00	METAL CHIP	330	5%	1/10W
R627	1-216-037-00	METAL CHIP	330	5%	1/10W
R665	1-216-025-00	METAL GLAZE	100	5%	1/10W
R666	1-216-025-00	METAL GLAZE	100	5%	1/10W
R667	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R668	1-208-806-11	METAL GLAZE	10K	0.50%	1/10W
R669	1-216-073-00	METAL CHIP	10K	5%	1/10W
R670	1-216-025-00	METAL GLAZE	100	5%	1/10W
R671	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R701	1-216-081-00	METAL CHIP	22K	5%	1/10W
R702	1-216-081-00	METAL CHIP	22K	5%	1/10W
R703	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R704	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R705	1-216-246-00	METAL GLAZE	100K	5%	1/8W
R706	1-249-441-11	CARBON	100K	5%	1/4W
R707	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R708	1-216-246-00	METAL GLAZE	100K	5%	1/8W
R709	1-216-246-00	METAL GLAZE	100K	5%	1/8W
R710	1-216-081-00	METAL CHIP	22K	5%	1/10W
R711	1-216-246-00	METAL GLAZE	100K	5%	1/8W
R712	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R716-718	1-249-421-11	CARBON	2.2K	5%	1/4W
R722	1-216-246-00	METAL GLAZE	100K	5%	1/8W
R723	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R724	1-216-001-00	METAL CHIP	10	5%	1/10W (US, Canadian)
R724	1-216-097-00	METAL GLAZE	100K	5%	1/10W (E)
R725	1-216-089-00	METAL GLAZE	47K	5%	1/10W (E)
R726	1-216-025-00	METAL GLAZE	100	5%	1/10W (E)
R727	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R728	1-216-097-00	METAL GLAZE	100K	5%	1/10W (E)
R729	1-216-097-00	METAL GLAZE	100K	5%	1/10W (US, Canadian)
R730	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R731	1-249-441-11	CARBON	100K	5%	1/4W
R732	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R733	1-216-246-00	METAL GLAZE	100K	5%	1/8W
R735	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R737	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R738	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W
R739-742	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R770	1-216-230-00	METAL GLAZE	22K	5%	1/8W
R901	1-164-413-11	CARBON	470	5%	1/4W
R998	1-216-025-00	METAL GLAZE	100	5%	1/10W
R999	1-216-097-00	METAL GLAZE	100K	5%	1/10W

< VARIABLE RESISTOR >

RV121	1-238-597-11	RES, ADJ, CARBON 1K
RV221	1-238-597-11	RES, ADJ, CARBON 1K

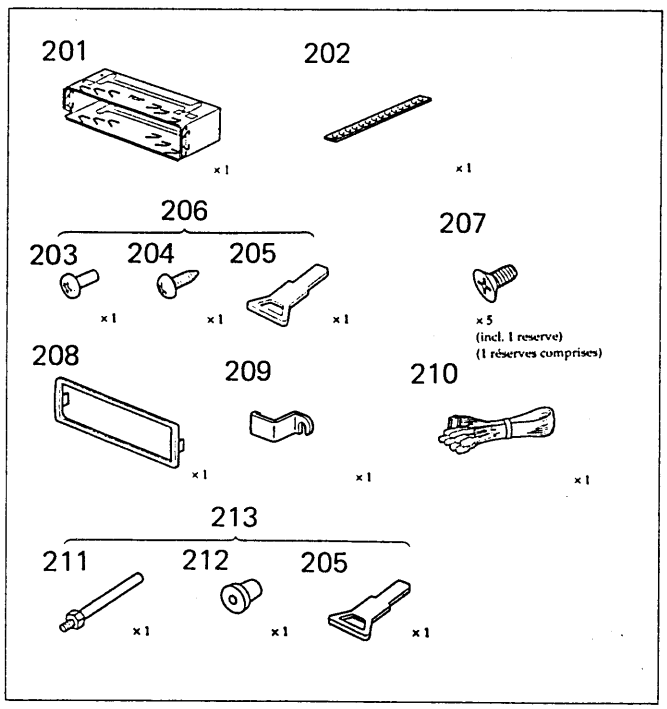
< SWITCH >

S501	1-571-478-11	SWITCH, SLIDE (FREQUENCY SELECT) (E)

Ref. No.	Part No.	Description	Remark
S511	1-571-478-11	SWITCH, SLIDE (POWER SELECT)	
S551	1-692-431-21	SWITCH, TACTILE (RESET)	
S561	1-762-108-11	SWITCH, PUSH (1 KEY) (NOSE DET)	
		< VIBRATOR >	
X11	1-577-126-51	VIBRATOR, CRYSTAL (7.2MHz)	
X501	1-579-233-11	VIBRATOR, CERAMIC (5MHz)	
X502	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)	
**********			
*	1-660-465-11	SUB BOARD	
		*********	
		< CONNECTOR >	
CN1000	1-774-276-21	SOCKET, CONNECTOR 16P	
CN1001	1-774-944-11	SOCKET, CONNECTOR 14P	
		< DIODE >	
D1001	8-719-422-64	DIODE MA8062-M	
D1002	8-719-422-64	DIODE MA8062-M	
D1003	8-719-422-64	DIODE MA8062-M	
D1004	8-719-422-64	DIODE MA8062-M	
D1005	8-719-422-64	DIODE MA8062-M	
D1006	8-719-058-14	LED CL-220PG-C-TS (CASSETTE DOOR)	
		< TRANSISTOR >	
Q1001	8-729-900-53	TRANSISTOR DTC114EK	
Q1002	8-729-027-23	TRANSISTOR DTA114EKA-T146	
		< RESISTOR >	
R1001	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R1002-1005			
	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R1006	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R1007	1-216-029-00	METAL CHIP 150 5% 1/10W	
R1008	1-216-029-00	METAL CHIP 150 5% 1/10W	
R1011	1-216-073-00	METAL CHIP 10K 5% 1/10W	
		< SWITCH >	
S1001	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (⏏)	
**********			

Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		**********	
19	1-776-207-11	CORD (WITH CONNECTOR)	
F401	1-532-982-11	FUSE (BLADE TYPE) (AUTO FUSE) 15A	
HP901	1-500-157-21	HEAD, MAGNETIC (PLAYBACK)	
M901	A-3291-644-A	MOTOR ASSY, MAIN	
M902	A-3291-643-A	MOTOR ASSY, SUB	
S901	1-692-885-11	SWITCH, ROTARY SLIDE (TAPE OPERATION)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-467-559-61	REMOTE COMMANDER (RM-X42) (E)	
	1-473-067-31	REMOTE COMMANDER (RM-X2S)	
	3-856-246-21	MANUAL, INSTRUCTION, INSTALL (RM-X2S) (ENGLISH, FRENCH, GERMAN, SPANISH, DUTCH, SWEDISH, ITALIAN, PORTUGUESE, CHINESE) (US, Canadian)	
	3-856-261-11	MANUAL, INSTRUCTION (ENGLISH, SPANISH, CHINESE) (E)	
	3-856-261-21	MANUAL, INSTRUCTION (ENGLISH) (US, Canadian)	
	3-856-261-31	MANUAL, INSTRUCTION (FRENCH) (Canadian)	
	3-856-265-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, SPANISH, CHINESE) (E)	
	3-856-265-21	MANUAL, INSTRUCTION, INSTALL (ENGLISH, FRENCH) (US, Canadian)	
	9-939-081-01	LID, BATTERY CASE (RM-X42) (E)	
	X-3369-665-1	CASE ASSY	
	X-3369-817-1	BRACKET ASSY (RM-X2S)	
**********			
		**********	
		HARDWARE LIST	
		**********	
#1	7-685-105-19	SCREW +P 2X8 TYPE2 NON-SLIT	
#2	7-621-255-40	SCREW +P 2X6 (US, Canadian)	
#2	7-621-255-41	SCREW +P 2X6 (E)	
#3	7-621-770-67	SCREW +PTT 2.6X6 (S)	
#4	7-621-773-87	SCREW +PTT 2.6X10 (S)	
#5	7-621-773-95	SCREW +PTT 2.6X6 (S)	
#6	7-624-104-04	STOP RING 2.0, TYPE -E	
#7	7-627-553-17	PRECISION SCREW +P 2X2 TYPE 3	
#8	7-628-253-00	SCREW +PS 2X4	
**********			

Ref. No.	Part No.	Description	Remark
		MOUNTING HARDWARE	
		**********	
201	3-916-161-41	FRAME, FITTING	
202	3-914-406-01	SUPPORT (ND), FITTING (US, Canadian)	
203	7-682-560-04	SCREW +P 4X6 (US, Canadian)	
204	3-915-917-01	SCREW (4X12), +T (US, Canadian)	
205	3-388-078-01	KEY	
206	X-3370-076-1	SCREW ASSY (U.KEY), FITTING (US, Canadian)	
207	X-3371-913-1	SCREW ASSY (J)	
208	3-932-209-01	COLLAR	
209	3-936-243-01	STOPPER	
210	1-776-207-11	CORD (WITH CONNECTOR)	
211	3-386-828-01	SCREW, FITTING (E)	
212	3-349-410-01	BUSHING (E)	
213	X-3370-077-1	SCREW ASSY (AE.KEY), FITTING (E)	



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XR-C500

SONY

SERVICE MANUAL

US Model
Canadian Model
E Model

CORRECTION-1

Correct your service manual as shown below.

☛ : indicates corrected portion.

Page	INCORRECT				CORRECT		
	Ref.No.	Part No.	Description	Remark	Part No.	Description	Remark
55	TU1	————			A-3282-012-A	TUNER UNIT (TUX-006 (E))	(US,CANADIAN) ☛
	TU1	————			A-3282-019-A	TUNER UNIT (TUX-008 (EA))	(E) ☛

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